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These are only a part of our products in this guide catalogue,if you need more information,please contact us; Because of rapid product technology innovation,the products in this guide should be based on practical products or user manual, if any changements,please forgive us not to inform separately.

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ELECTRIC Suntree XinChi Electric

MOLDED CASE CIRCUIT BREAKER SERIES

SHANGHAI XINCHI ELECTRIC CO.,LTD.
www.china-suntree.com

Suntree ELECTRIC

XinChi Electric

Innovative technology leads to better future.
professional working makes excellent quality.

Company Profile

ShangHai XinChi Electric Co., Ltd is a group company,There are four branch companies subordinate to it:Yueqing XINCHI Electric&Science Technology Co.,LTD, YueQing IMP and EXP Co., Ltd. HK Yangming Electrical Technology Co., Ltd. Wenzhou Litto smart Co., Ltd. Registered trademark is "suntree".

ShangHai XinChi Electric Co., Ltd. is one of the most professional manufacturers producing low-voltage and high-voltage electrical products, we mainly produce circuit breakers, contactors,and thermal overload relay. Fuse, Switch-disconnectors, ATS, Distribution box, SPD, SSR,Transformer, Relay, Button and signal lantern, Regulator, Switching power supply, and solar connector, DC circuit breaker, solar cable, DC Switch-disconnectors, DC combiner box and so on.

As an ISO9001:2008 certified company, we have obtained many certificates, Such as IEC60947, IEC60898, CB,SAA,TUV,CE, SONCAP, RoHS,Nemko,PCT,CCC etc.

Stability, expertise and technological innovation are the corner stones of the company's business strategy.

Aiming at reliable product quality and highest customers satisfaction, we are consistently deep-ening enterprise inner reform and fully carry out quality guarantee system. Such as the quality of all products is insured under PICC, fully guaranteed consumers, rights. With special cultivation of employees, high investment on production facilities and R&D, and wide range of products, we advocate technology innovation, business honesty and trust and always put quality as our basic principles, trying to develop into a world-class electrical manufacturer with constant efforts.

Technology Innovation, Famous in the world.

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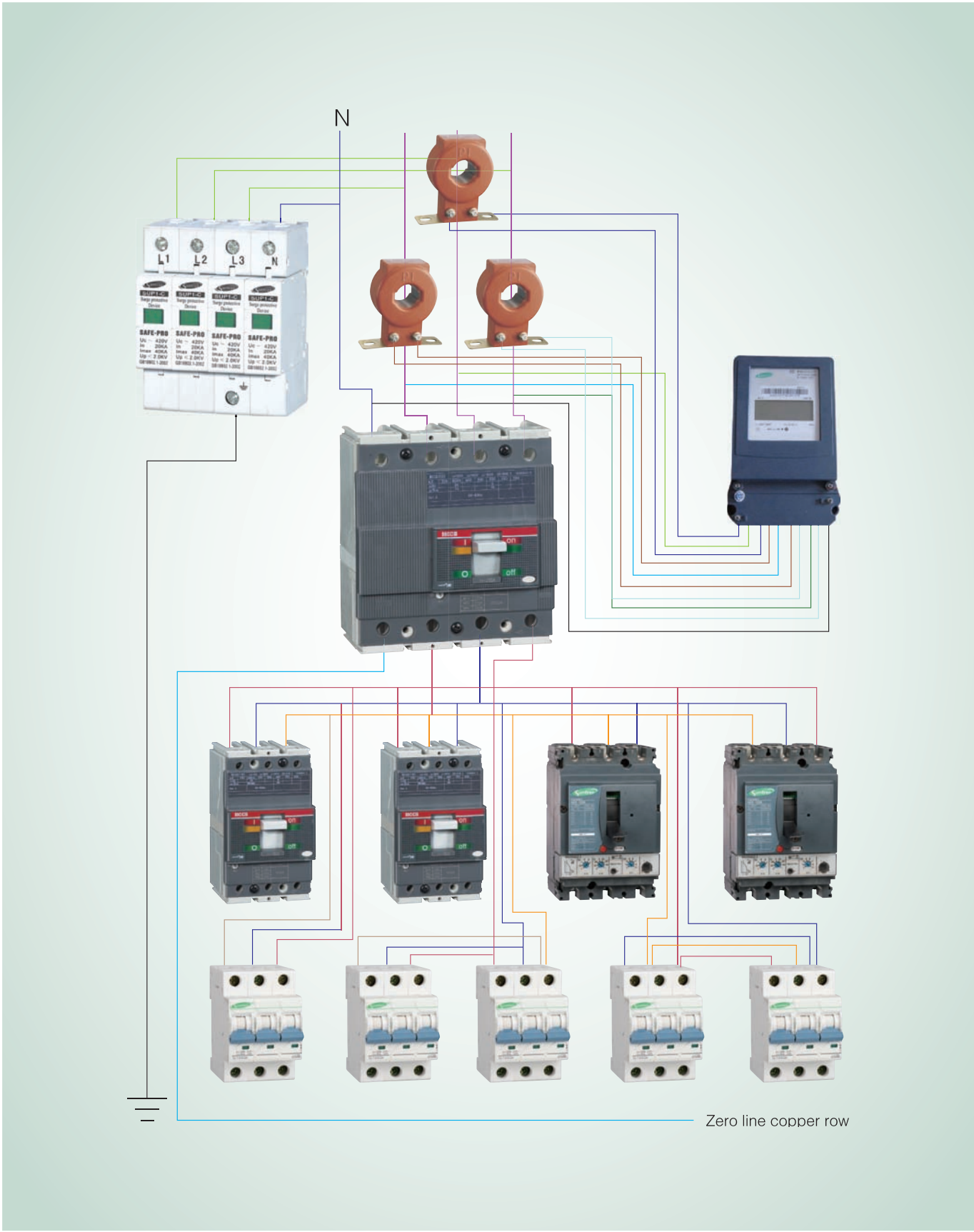
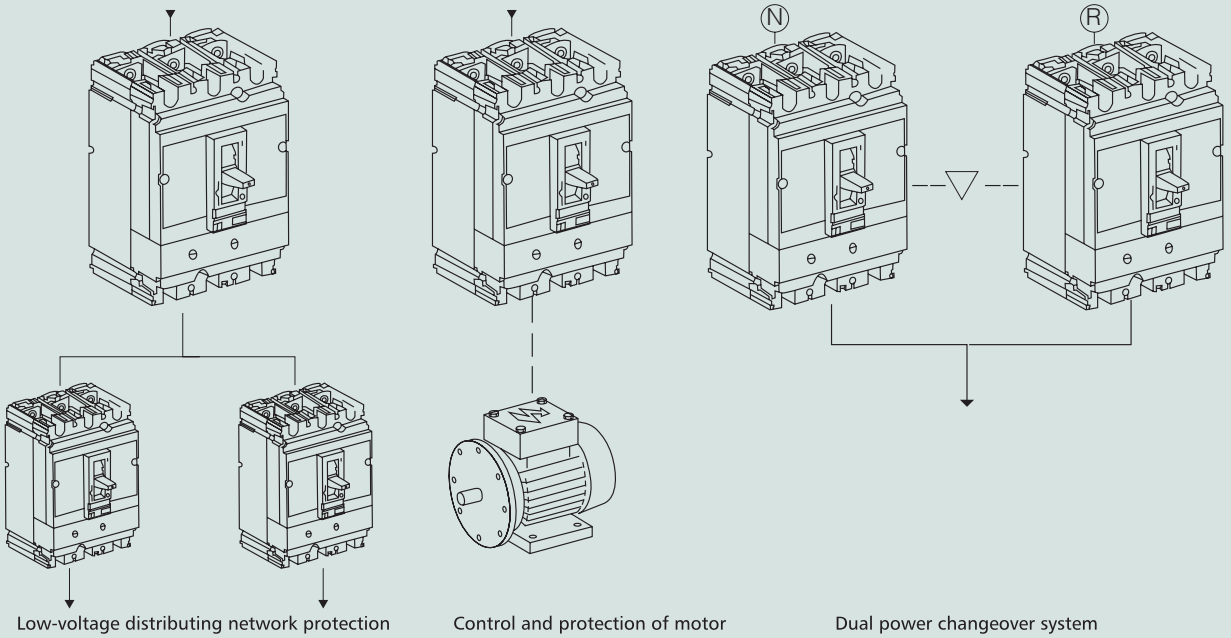
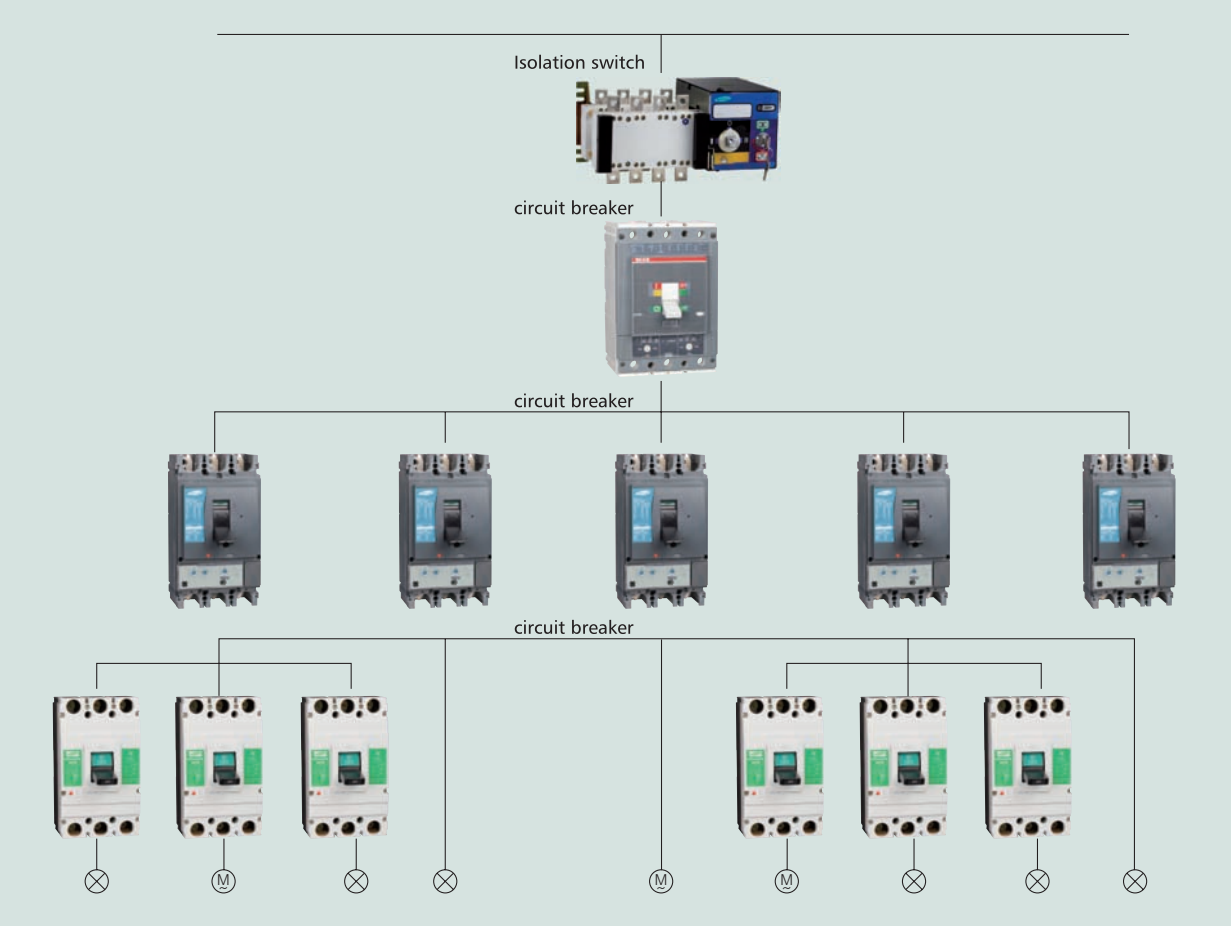


Application examples





ELECTRIC
Suntree
XinChi Electric
400A
PICC
ON
OFF
Applicability is wide and economical
Clamp type circuit breaker lock
With mechanical interlocking

Clamp-on breaker lockouts

Extremely versatile-works on wide range of single-pole and internal-trip;
Made of rugged polypropylene and impact modified nylon;
Use thumbscrew to clamp lockout securely onto switch tongue, then pull cov and lock in place to prevent clamp from being loosened;
New blade design provides tighter grip with less torque on thumb screw;
Accepts locks shackles up to 9/32 in diameter.

Keyword:Electric and manual operation, Base:black,gray; Cover:black white; Other casing:resin plastics
DC MCCB for solar system, Clamp type circuit breaker lock

SM1 Series moulded case circuit breaker

Application

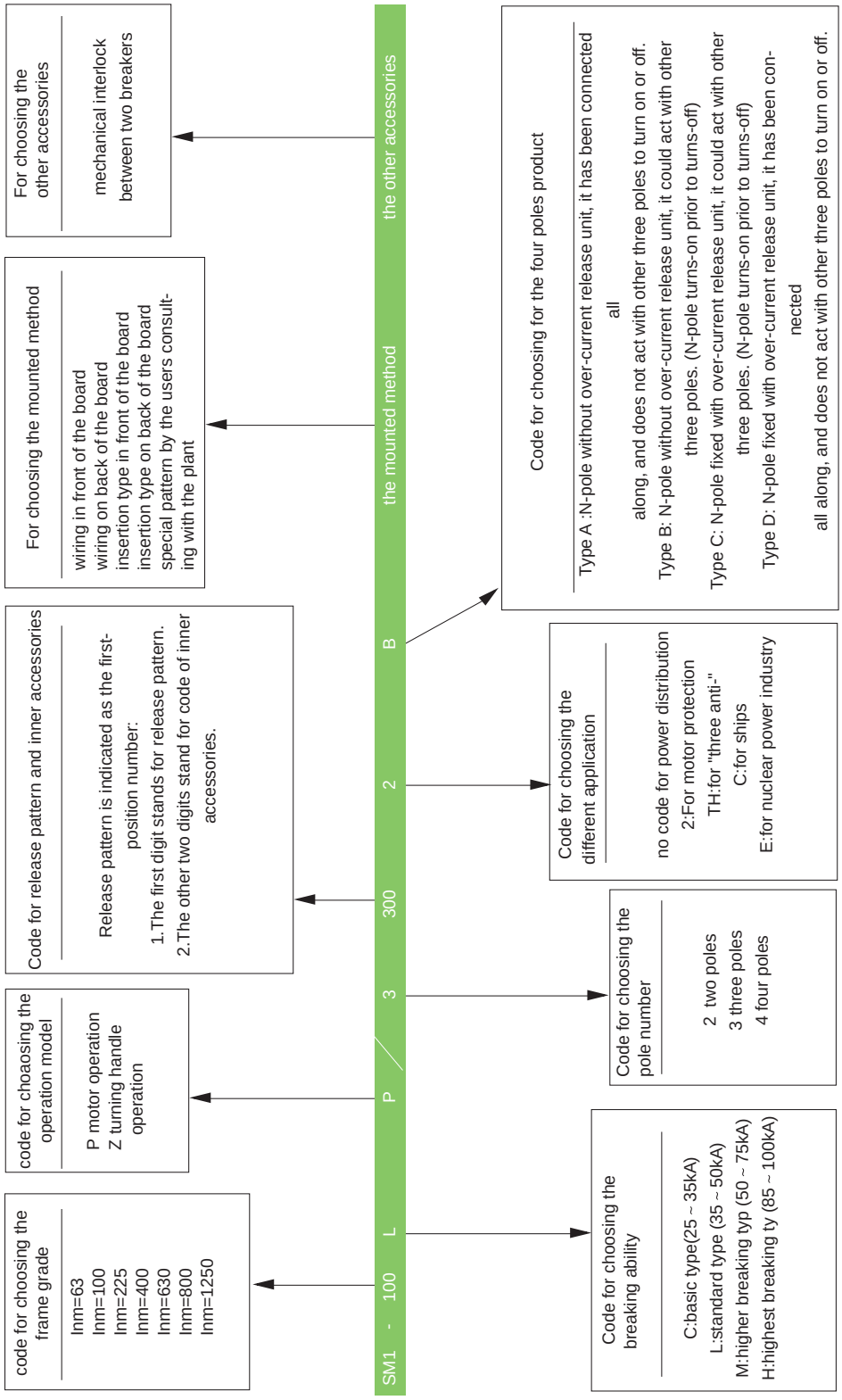
SM1 series moulded case circuit breaker is a new type product developed and manufactured by Adopting international advanced technology. It is supplied with rated insulation voltage 800V and used for circuit of AC 50Hz, rated operation voltage AC 400V or below rated operation current up to 1600A for infrequent changing over and starting of the motors. Equipped with the protection devices for over-current,short circuit and under voltage,the product is capable of preventing damage of circuits and supply units. The product conforms to IEC60947-2 standard.

Specifications

Type	Rated current (A)	No.of Poles	Rated Insulation Voltage (V)	Rated Operating Voltage (V)	Arcing Over Distance (mm)	Ultimate Short Circuit Breaking Capacity (kA)	Service Short Circuit Breaking Capacity (kA)	Operation Performance ON OFF
SM1-63L	6,10,16 20,25,32 40,50,63	3P 4P	690V	380V	0	25	18	1500 8500
SM1-63M					0	50	35	
SM1-100C	10,16,20 25,32,40 50,63,80 100				0	25	18	
SM1-100L					0(0 ≤ 50)	35	22	
SM1-100M					0(0 ≤ 50)	50	35	
SM1-100H					0(0 ≤ 50)	85	50	
SM1-225C	100,125 160,180 200,225				0 ≤ 50	25	18	1000 7000
SM1-225L					0 ≤ 50	35	22	
SM1-225M					0 ≤ 50	50	35	
SM1-225H					0 ≤ 50	85	50	
SM1-400C	225,250 315,350 400				0 ≤ 50	35	25	1000 4000
SM1-400L					0 ≤ 50	50	35	
SM1-400M					0 ≤ 50	65	42	
SM1-400H					0 ≤ 50	85	50	
SM1-630C	400,500 630				0 ≤ 50	35	25	
SM1-630L					0 ≤ 100	50	35	
SM1-630M					0 ≤ 100	65	42	
SM1-630H					0 ≤ 100	100	65	
SM1-800M	630,700 800				0 ≤ 100	65	42	
SM1-800H					0 ≤ 100	100	65	

SM1 Series moulded case circuit breaker

Model selection table


SM1 - 100 L P / 3 300 2 B
code for choosing the frame grade
Inm=63
Inm=100
Inm=225
Inm=400
Inm=630
Inm=800
Inm=1250
code for choaosing the operation model
P motor operation
Z turning handle operation
Code for release pattern and inner accessories
Release pattern is indicated as the first-position number:
1.The first digit stands for release pattern.
2.The other two digits stand for code of inner accessories.
Code for choosing the breaking ability
C:basic type(25 ~ 35kA)
L:standard type (35 ~ 50kA)
M:higher breaking typ (50 ~ 75kA)
H:highest breaking ty (85 ~ 100kA)
Code for choosing the pole number
2 two poles
3 three poles
4 four poles
Code for choosing the different application
no code for power distribution
2:For motor protection
TH:for "three anti-"
C:for ships
E:for nuclear power industry
Code for choosing for the four poles product
Type A :N-pole without over-current release unit, it has been connected all along, and does not act with other three poles to turn on or off.
Type B: N-pole without over-current release unit, it could act with other three poles. (N-pole turns-on prior to turns-off)
Type C: N-pole fixed with over-current release unit, it could act with other three poles. (N-pole turns-on prior to turns-off)
Type D: N-pole fixed with over-current release unit, it has been connected all along, and does not act with other three poles to turn on or off.
For choosing the mounted method
wiring in front of the board
wiring on back of the board
insertion type in front of the board
insertion type on back of the board
special pattern by the users consulting with the plant
For choosing the other accessories
mechanical interlock between two breakers
the mounted method
the other accessories

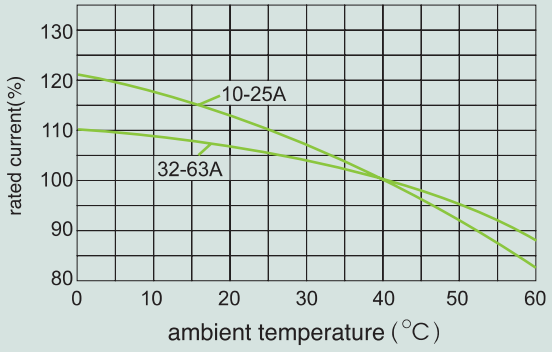
For example:

- When placing an order SM1-100M , three pole,motor protection, rated current 80A with shunt release,auxiliary contact, front board connection,and two set mechanical interlock mechanism, which can be shortly write: SM1-100M/33402 In=80A, front board connection 2sets mechanical interlock mechanism, release coil voltage:AC220V.
- When placing an order for SM1-225 , four pole, distribution, rated 180A, and with motor operation mechanism and shunt release, install over-current release at N-pole, and N-pole and the other three poles is ON=OFF mode,rear board connection 10 pcs,which can be shortly write: SM1-225P/4310C , In=180A rear board connection, motor voltage 220V, rdlease coil voltage: 220V.

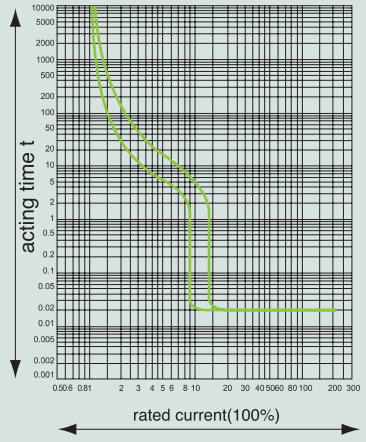
SM1 Series moulded case circuit breaker

Characteristic curve

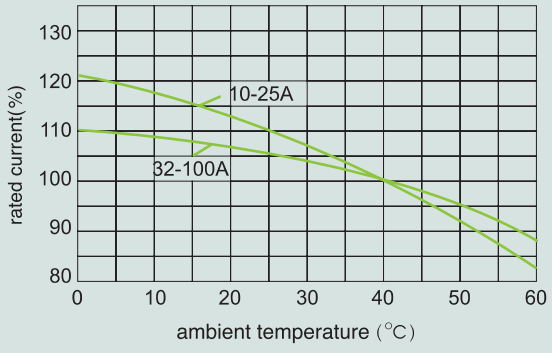
Current-temperature characteristic



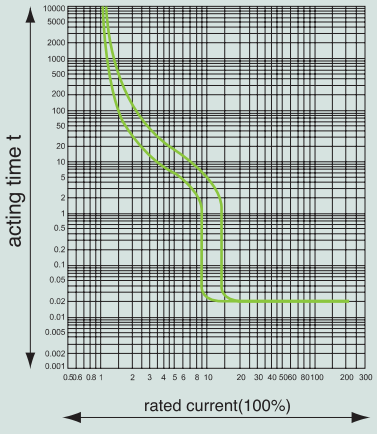
SM1-63L、M time/current characteristic curve



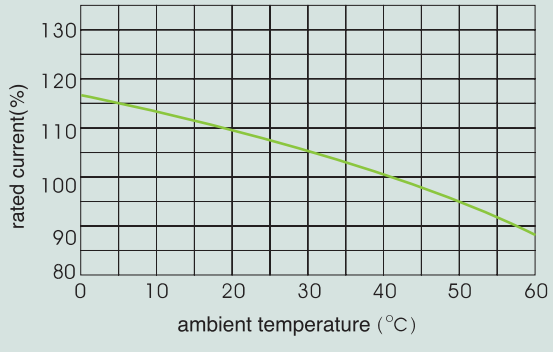
Current-temperature characteristic



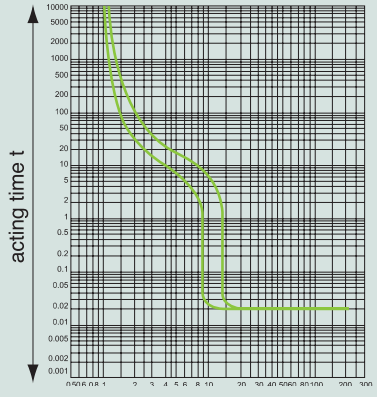
SM1-100C、L、M、H time/current characteristic curve



Current-temperature characteristic



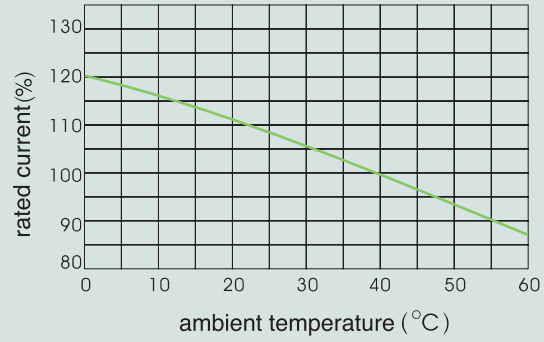
SM1-225、C、L、M、H time/current characteristic curve



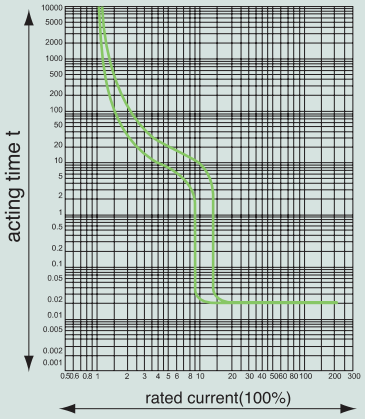
SM1 Series moulded case circuit breaker

Characteristic curve

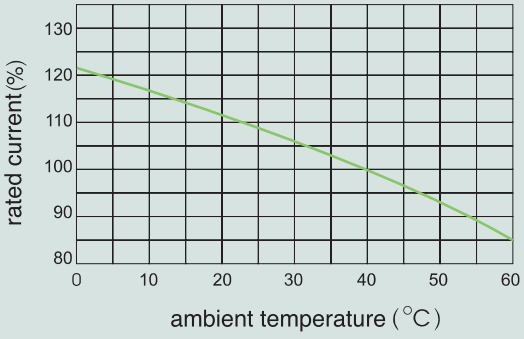
Current-temperature characteristic



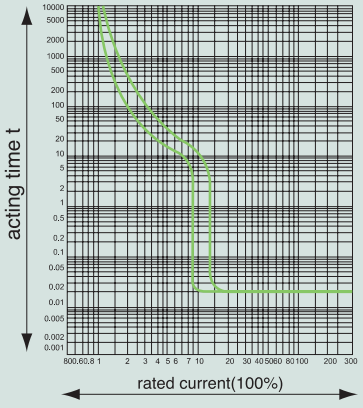
SM1-400C、L、M、H
time/current characteristic curve



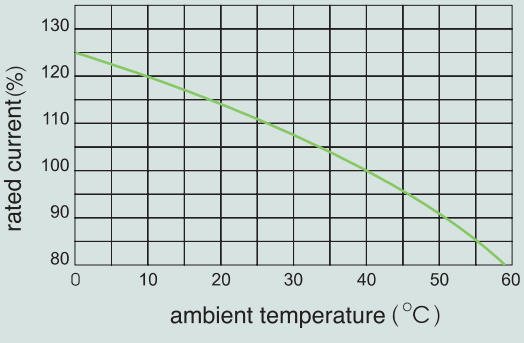
Current-temperature characteristic



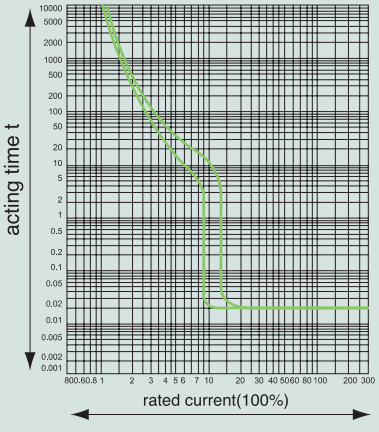
SM1-630C、L、M
time/current characteristic curve



Current-temperature characteristic



SM1-630H、800M、H
time/current characteristic curve

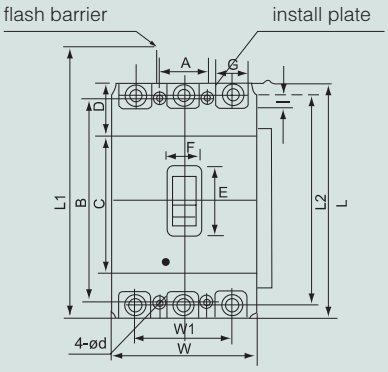


SM1 Series moulded case circuit breaker

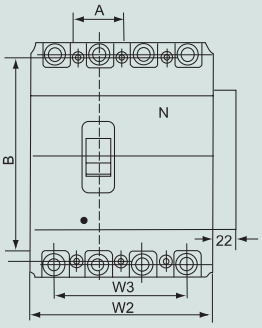
SM1-63～630M Overall and installation dimension

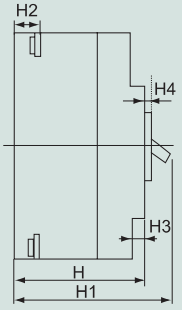
Front board wiring

three poles



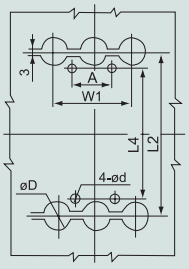
four poles



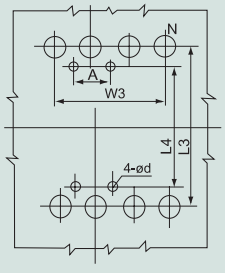


Aperture drawing of rear board wring

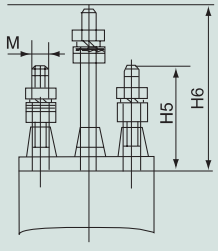
three poles

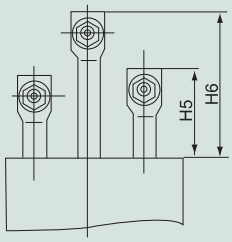


four poles

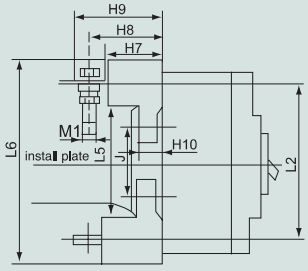


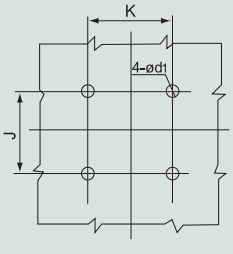
Rear board wring





Insertion type

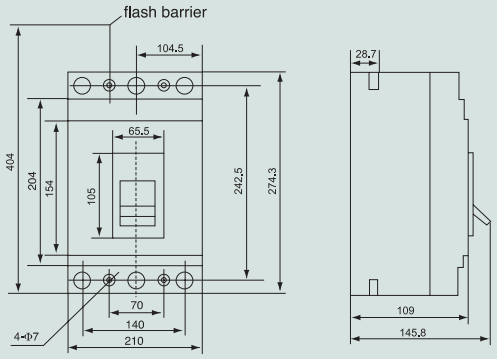




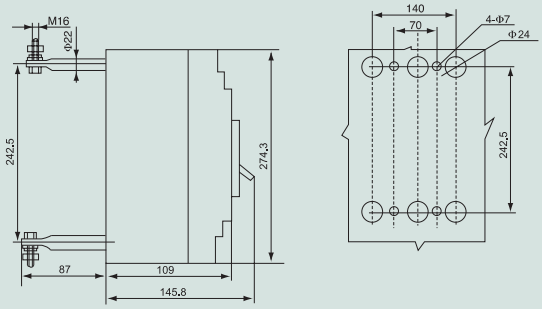
SM1 Series moulded case circuit breaker

SM1-630H,800(M,H) Overall and installation dimension

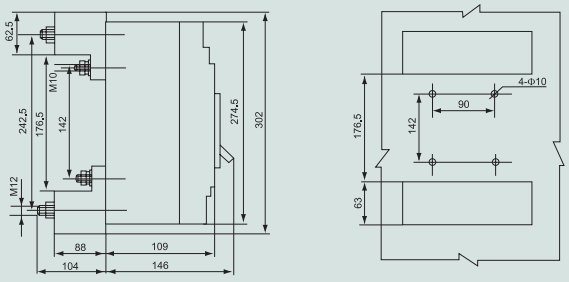
Overall dimension of front board wiring(three poles)



Overall dimension of rear bord wiring (three poles)

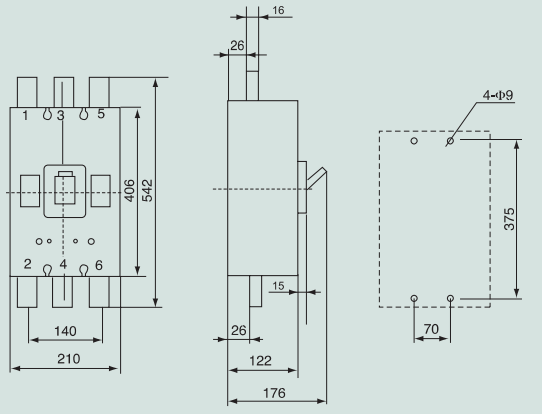


Overall Installation and Aperture Dimension of Insert-type

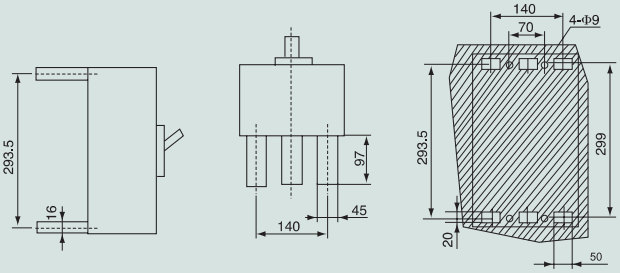


SM1-1250 Overall and installation dimension

Front Board Wiring Dimension(three poles)



Rear board wring Dimension(three poles)



SM1 Series moulded case circuit breaker

Overall and installation dimension

Type			SM1								
	Unit	Symbol	63L	63M	100C/L	100M/H	225C/L	225M/H	400C/H	400M/H	630C/L/M
Overall dimension of front board wiring	mm	W	76	76	91	91	106	106	148	180	180
	mm	W1	50	50	60	60	70	70	96	116	116
	mm	L	135	135	150	150	165	165	256	270	270
	mm	L1	154	154	199	199	230	230	356	370	370
	mm	L2	117	117	132	132	144	144	223	237	237
	mm	L7	27	27	28	28	37.2	37.2	66.1	63.2	63.2
	mm	H	73.5	81	69	86	86	104	105	111.5	111.5
	mm	H1	90.5	98.5	86	104	110	127	155	160	160
	mm	H2	19.5	27.5	24	24	24	24	38	40	40
	mm	H3	7	7	7	7	4.5	4.5	8	8	8
	mm	H4	4	4	4	4	3.5	3.5	6	6	6
	mm	C	85	85	88	88	102	102	128	134	134
	mm	D	26	26	32.5	32.5	31.5	31.5	64.5	69.5	69.5
	mm	E	48	48	58	58	58	58	89	89	89
	mm	F	22	22	22.5	22.5	25	25	65	65	65
	mm	G	14	14	17	17	17.5	17.5	32.5	44.5	44.5
	mm	I	7.5	7.5	8	8	9	9	12.5	13	13
	mm	W2	103	103	121	121	141	141	196.5	238.5	238.5
	mm	W3	75	75	90	90	105	105	144	173.5	173.5
Overall dimension of rear board wiring	mm	L3	116.5	116.5	132.5	132.5	144	144	224	234.5	234.5
	mm	L4	117	117	102.5	102.5	123	123	194	200	200
	mm	H5	25	25	68	68	73	73	66	68	68
	mm	H6	49.5	49.5	102	102	110	110	118	124	124
	mm	ΦD	6.5	6.5	24	24	24	24	24	24	24
	mm	M	M6	M6	M8	M8	M10	M10	M12	M16	M16
Overall dimension of insert-type wiring	mm	L5	100	100	92	92	94	94	169	170	170
	mm	L6	135	135	168	168	185	185	279	299	299
	mm	H7	27.5	27.5	38	38	45.5	45.5	60	60	60
	mm	H8	36	36	65	65	68.5	68.5	81.5	92	92
	mm	H9	43	43	77	77	86.5	86.5	105.5	112	112
	mm	H10	8	8	17.5	17.5	18	18	18.5	20	20
	mm	J	60	60	56	56	54	54	129	123	123
	mm	K	50.5	50.5	60	60	70	70	60	100	100
	mm	Φd1	5.5	5.5	6.5	6.5	6.5	6.5	8.5	8.5	8.5
	mm	M1	M5	M5	M8	M8	M8	M8	M12	M12	M12
Installation dimension	mm	A	25	25	30	30	35	35	44	58	58
	mm	B	117	117	129	129	126	126	194	200	200
	mm	Φd	3.5	3.5	4.5	4.5	5	5	7	7	7

Keyword:Vertical or Horizontal installation, with leakage current, alarm function;Leakage current tripping fast, complete accessory and can adjust leakage operating current and time

SM1L Series moulded case circuit breaker with earth leakage protection

Application

SM1L series moulded case circuit break with residual current production. Rated insulation Voltage is 800V. It applies to circuit of AC 50Hz, rated working voltage 400V and rated working Current up to 630A, for infrequent switch over and infrequent start of motor. With overload,Short Circuit and under-voltage production,it can protect circuits and power-supply equipment from damage, can also be used for production from damage and any potential fire-hazard caused by long Existing earth fault which can not be detected by over-current production. The value of residual current is selectable.

Operating conditions

- Ambient air temperature:-5℃ ~40℃
- Altitude:less than 2000 meters
- Greadient:less than 22.5°
- Place free from erosion of rain and snow
- Ambient environment/medium free from explosive danger and air or conductive dust which may cause corrosion of metal or weakness of insulation.

Function

- Overload protection
- Shunt circuit protection
- Under-voltage protection
- Residual current protection
- Power distribution
- Motor protection Disconnection

Specifications

Type	Frame Rated Current Inm(A)	Rated Current In(A)	Rated Ultimate Short Circuit Breaking Capacity Icu(kA)	Rated Service Short Circuit Breaking Capacity Icu(kA)	Rated Residual Action Current I △ n(mA)	Rated Residual Non-action Current I △ no(mA)
SM1L-100	100	16,20,32,40,50 63,80,100	35	22	100/300/500	1/2I △ no
SM1L-225	225	100,125,140,160 180,200,225	35	25		
SM1L-400	400	225,250,315 350,400	50	35	300/500/1000	
SM1L-630	630	400,500,630	50	35		

Conventional heat current Ith(A)	Rated insulating voltage Ui(V)	Rated working current Ie(A)		Rated current of frame Inm(A)
		AC 400V	DC 220V	
1	400	0.3	0.15	Used as auxiliary contact
2	400	0.3	0.15	≤ 225
3	400	0.4	0.2	≥ 400

SM1L Series moulded case circuit breaker with earth leakage protection

Specifications

Type	Rated working voltage(V)		
	AC 50Hz		DC
Shunt release	Us	230,400	110,220
Under-voltage release	Ue	230,400	-
Electrical mechanism	Us	230,400	110,220

Residual current		1 △ n	21 △ n	51 △ n	101 △ n
Non time delay type	Max. breaking times (s)	0.2	0.1	0.04	0.04
Time-delay type	Max. breaking times (s)	0.5/1.15/2.15	0.35/1/2	0.25/0.9/1.9	0.25/0.9/1.9
	Ultimate non-driving time △ t(s)	-	0.1/0.5/1	-	-

Tripping characteristic

For power distribution

Test No.	Test current	I/n	Conventional time	Start status	Ambient temperature
1	Conventional non-action time	1.05	1h(In ≤ 63A)	Cold status	+40℃
			2h(In>63A)		
2	Conventional action time	1.30	1h(In ≤ 63A)	Right after test No.1	+40℃
			2h(In>63A)		

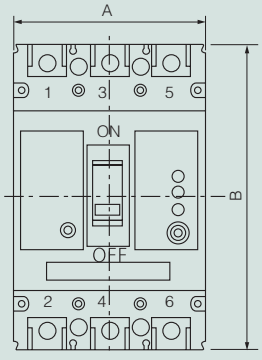
For motor protection

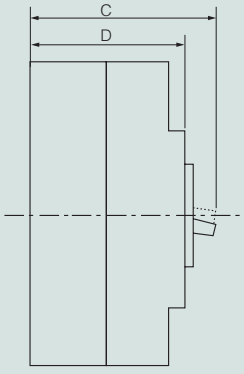
Test No.	Setting current	Conventional time		Start status	Ambient temperature
1	1.05In	Inm=100A	≥ 2h no action	Cold status	+40℃
		Inm=225A/400A	≥ 2h no action		
		Inm=630A	≥ 2h no actiong		
2	1.2In	Inm=100A	<2h action	Right after test No.1	+40℃
		Inm=225A/400A	<2h action		
		Inm=630A	<2h action		
3	1.5In	Inm=100A	<4min action	Heat status	+40℃
		Inm=225A/400A	<4min action		
		Inm=630A	<8min action		
4	7.2In	Inm=100A	≥ 1s action	Cold status	+40℃
		Inm=225A/400A	4s<T ≤ 10s action		
		Inm=630A	6s<T ≤ 20s action		

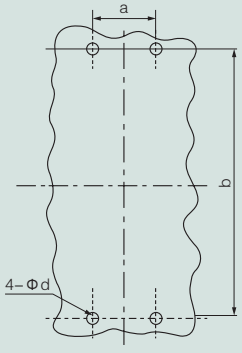
SM1L Series moulded case circuit breaker with earth leakage protection

Outline and installation dimension

Type	Number of poles	Outline dimensions(mm)				Installation dimensions(mm)		
		A	B	C	D	a	b	c
Frame-A SM1L-100	3	93	150	110	92	30	129	4.5
	4	122	150	110	92	60	129	4.5
Frame-B SM1L-225	3	107	165	110	90	35	126	4.5
	4	142	165	110	90	70	126	4.5
Frame-C SM1L-400	3	150	257	146.5	106.5	44	194	7
	4	198	257	146.5	106.5	88	194	7
Frame-D SM1L-630	3	210	280	155	115.5	70	243	7
	4	280	280	155	115.5	70	243	7







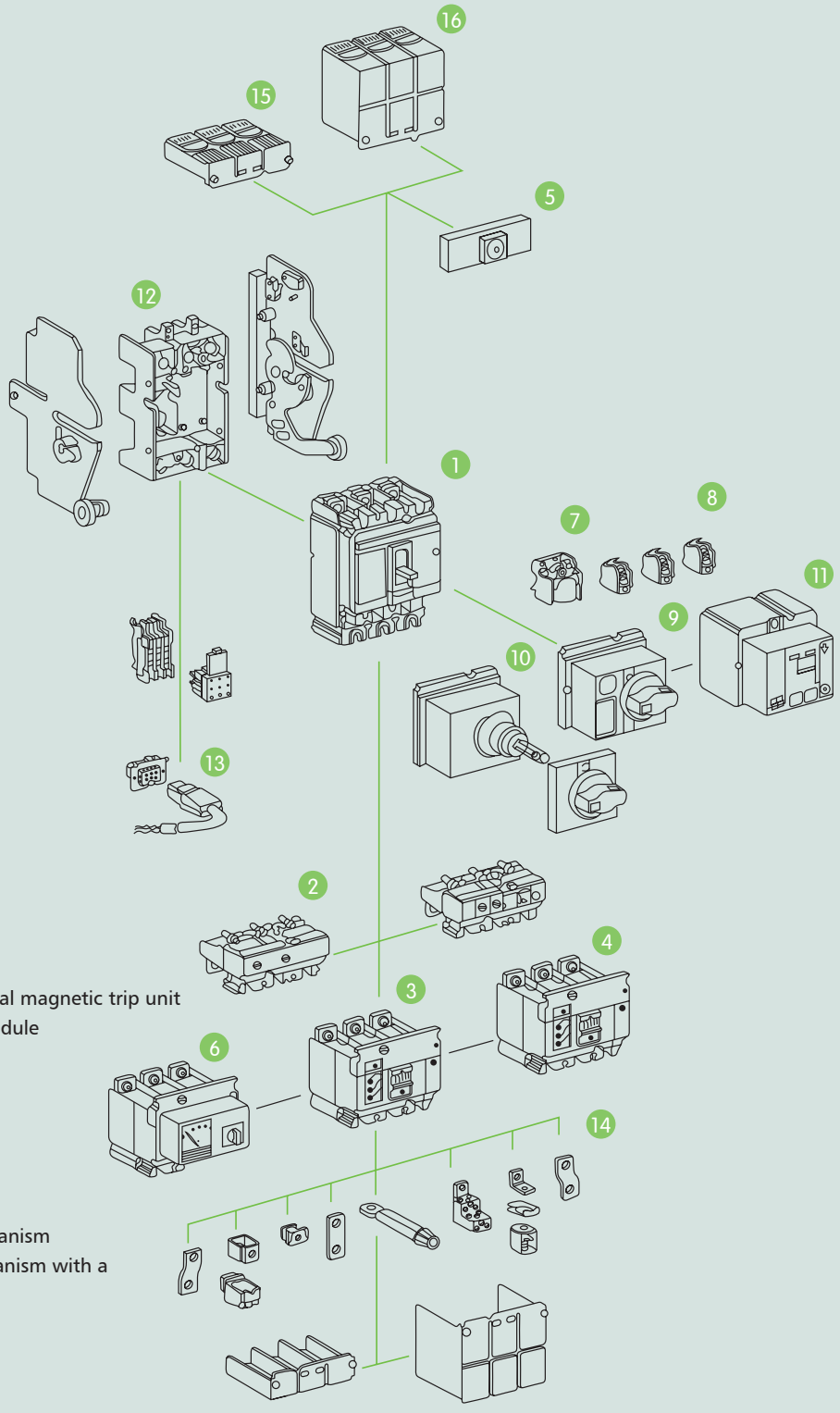
Suntree ELECTRIC
XinChi Electric

Applicability is wide

Small size,Light weight, nice exterior

With circuit breaker lock

Circuit breaker accessories diagram



1.Circuit breaker
2.Electronic trip unit,Thermal magnetic trip unit
3.Insulation monitoring module
4.Leakage module
5.Fixed plate
6.Ammeter module
7.Shunt release
8.auxiliary
9. Rotate the handle
10.Manual operating mechanism
11.Electric operating mechanism with a communication function
12.plug-in
13.ULP wiring accessories
14.Terminal
15.short terminal sheath
16.long terminal sheath

Keyword: 3P(3P+N),4Pole, Apply for isolator switch, Electric and thermal magnetic tripping device, Provide miniature circuit breaker lockouts

SM6 Series molded case circuit breakers

Application

SM6 Intelligent type MCCB is suitable for using in the circuit of AC 50/60Hz, please make remarks when ordering, rated insulating voltage 750V, rated working voltage below 690V, and rated current is 16A to 1250A for distributing electric energy, and infrequently OFF/ON under normal condition.

The intelligent MCCB, which the rated frame rank current is 800A and below, also can be used for infrequently switching and starting of squirrel cage motor and for protecting motor from over-load, short circuit and under-voltage.

Working conditions:

- Not over altitude 2000m;
- Ambient temperature is between-25℃ and +40℃ ;

Working in the medium which not any explosive, not enough dielectric to corrode metal, no gas to damage insulation and electric conduction dust;

- Working in the place would not be invaded by rain and snow;
- Pollution degree3;
- Mounting type.

The features of the STR

- SM6 Series molded case circuit breakers of which the main technical performance has reached the level of international equivalent products. SM6 MCCB has the advantages of compact structure, small volume, high breaking capacity, zero arcing, strong acclimation, installing conveniently and so on.
- SM6 Series intelligent molded case circuit breakers, adopt microprocessor technology to avoid the short point of traditional ones can be influenced by environment temperature owing to adopting bimetal.

Classification

- According to using: distribution circuit protection type, motor production type;
- According to connection mode: front panel connection, back panel connection, plug-in connection;
- According to operating way: for direct handle operating, for motor operator operating, for rotary handle operating.
- According to the number of pole: 3,4 pole.
- According to the accessory: with accessory setting, and without accessory setting.

Main capability index

Frame grade, rated current

Current grade	100model	160model	250model	400model	630model	1250model
Adjustable rated current range	40A-100A	64-160A	100A-250A	160A-400A	250A-630A	500A-1250A

Release module way

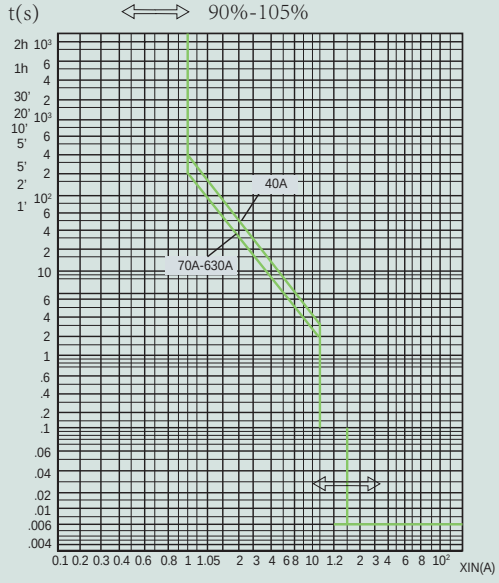
Protection Mode / Release Module	Power protection	Low voltage distribution metwork protection	Generator protection	DC network protection
Thermal-Electromagetic	TM(2)	TM	-	-
Election	SM6 □□ ME	SM6 □□ SEMM	SM6 □□ GE	SM6 □□ DC
No release	-	-	-	-

The main capability index:

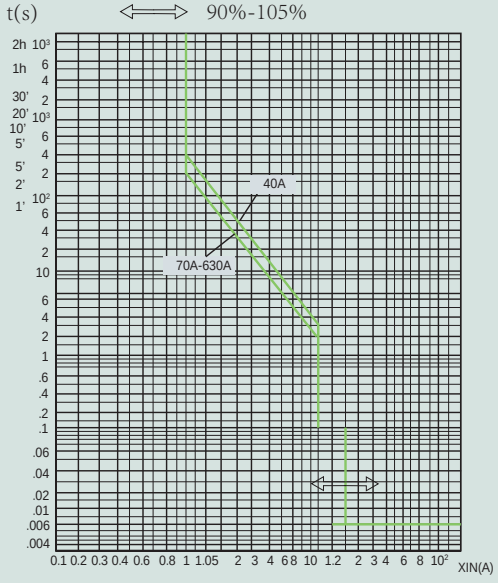
The protection of SM6 serise breakers (intelligent)

The frame current grad (A)	Rated current	Tims of Short delay(times)	Notice
100model(SE)	40-100	2-10	1:Grades to adjust:2,3,4,5,6,7,8,10 2:Rated current can be adjusted, and has 48 grades. 3:Distribute electric instantaneous multiple up from 11 times 4:Motor instantaneous multiple up from 12 times.
160model(SE)	64-160	2-10	
250model(SE)	100-250	2-10	
400model(SE)	160-400	2-10	
630model(SE)	250-630	2-10	
1250model(SE)	500-1250	2-10	

SM622SE, SM623SE distribution circuit breaker protection curve(intelligent).



SM622SE, SM623SE power circuit breaker protection curve(intelligent).



The protection of the thermodynamic distribution circuit breaker[tm] (comply with GB14048.2) Ambient temperature+40℃

Action charac-teristic / Rated current In (A)	Ambient temperature+40℃		Error of instantaneous trip
	1.05In(cold state) inoperative time(h)	1.30In(heat state) inoperative time(h)	
In ≤ 63	≥ 1h	<1h	10In ± 20%
63<In ≤ 1250	≥ 2h	<2h	10In ± 20%

SM6 Series molded case circuit breakers

The protection of the thermodynamic distribution circuit breaker[tm] (comply with IEC60947-2) Ambient temperature+40℃

Action charac-teristic / Rated current In (A)	1.0In(cold state) inoperative time(h	1.2In(heat state) inoperative time(h)	1.5In(heat state) inoperative time(h)	7.2In(cold state) inoperative time(h	Error of instantaneous trip
63<In ≤ 250	≥ 2h	<2h	≤ 4min	2s<In ≤ 10	10In ± 20%

Type	SM6-100		SM6-160		SM6-250		SM6-400		SM6-630		SM6-1250	
Main technical parameter(comply with GB14048.2/IEC60947-2)												
Rated current(A)	100		1600		250		400		630		800,1000,1250	
Number pole	3,4		3,4		3,4		3,4		3,4		3	
Rated insulation voltage (V)	850		850		850		850		850		850	
Rated working voltage (V)	690		690		690		690		690		690	
Test life(no hoad/0.5In load)	8500/1300		7000/900		7000/900		4000/800		4000/800		1000/400	
Rated impulse withstand voltage (kV)	7.5		7.5		7.5		7.5		7.5		7.5	
Ultimate short circuit breaking capacity icu(kA)												
220V/230V	75	80	75	80	75	80	80	90	80	90	80	90
380V/415	25	45	30	45	30	45	42	60	42	60	42	60
400V	25	40	30	40	30	40	40	55	40	55	40	55
500V	18	30	25	30	25	30	30	45	30	45	30	45
600V	7	9	7	9	8	10	10	18	10	18	10	18
Service short circuit breaking capacity Ics	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Usage sort	A		A		A		A		A		A	
Protect Ir form over current	40-100		64-160		100-250		160-400		250-630		500-1250	
Instantaneous times	2-10		2-10		2-10		2-10		2-10		2-10	
Three phase unbalance protection N=In/2,N=In	Aim at the protection of motor and depend on consumer's advises											

Keyword:Electronic release, tripping current, tripping time is adjust, with load indicator, High breaking capacity

SM6-M Series moulded case circuit breaker with intelligent electronic release

Special function of SM6 intelligent

● Indication of overloading

When the load current within the 90% of the setting, the indicator will not bright, up to 90%-105%, it will bright persistently, and over 105%, it will glint in 1Hz(bright 0.5s, drown 0.5);

● Indication of self-examining

The core of the release module is electric module, and the center of the electric module is power supply and microprocessor. Once the release can not work naturally, the indicator of self-examining will not glint naturally(the rigght glint: drown 1.8s bright 0.2s). That means the release ;

● Phase failure protection and three phases unbalance protection

Because of this function, it can replace thermal rely and motor broken phase protection, and the deviser can simple the lines, depress the cost;

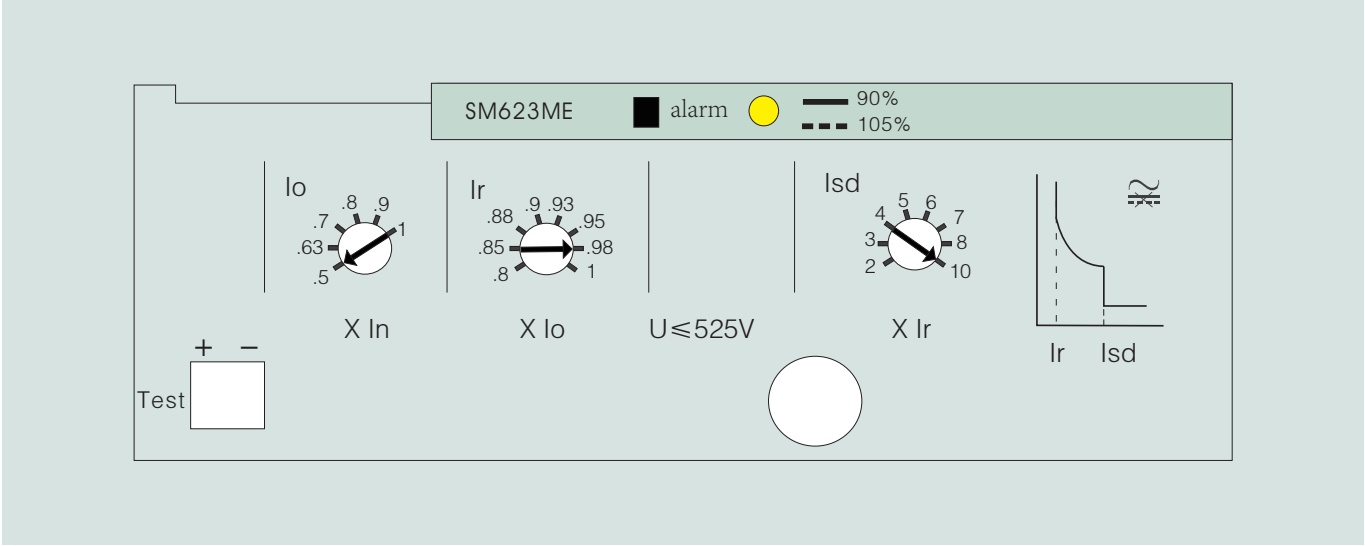
● If the breakers are 4P, the deviser can adjust the protection setting of the zero line, and the deviser can design out different distribute lines to fitvary occasions.

The range of the release current setting

In(A)	40	100	160	250	40	630	1250
Enact range(A)	16-40	40-100	64-160	100-250	160-400	252-630	500-1250

The setting of the electric release

The setting of the electric release departs 48points to adjust, enacts by 2digit coding switch separately. The method is following



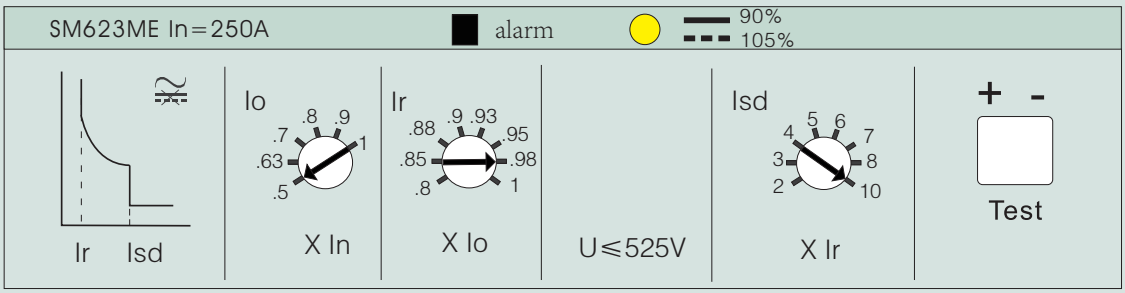
SM622SE is used in 400A,630A breakers of frame current.

In Coefficient	0.5	0.63	0.7	0.8	0.9	1		
Io Coefficient	0.8	0.85	0.88	0.9	0.93	0.95	0.98	1

SM6-M Series moulded case circuit breaker with intelligent electronic release

For example: The frame current is 400A

The setting of the release current Ir=In (frame current) × Io coefficient × Ir coefficient=400 × 0.5 × 0.98=196A;
The setting of short thermal release current Isd=Ir × Isd coefficient=196A × 10=1960A;
Instantaneous setting is frame current 11 times or more, as In × 11times=400A × 11=4400A(electric release of distribution breaker SM622SE SM622SE instantaneous setting root frame current 11 times or more, and the electric release of motor breaker SM622ME SM623ME instantaneous setting root frame current 13times of more.)



SM622SE is used in 400A,630A breakers of frame current.

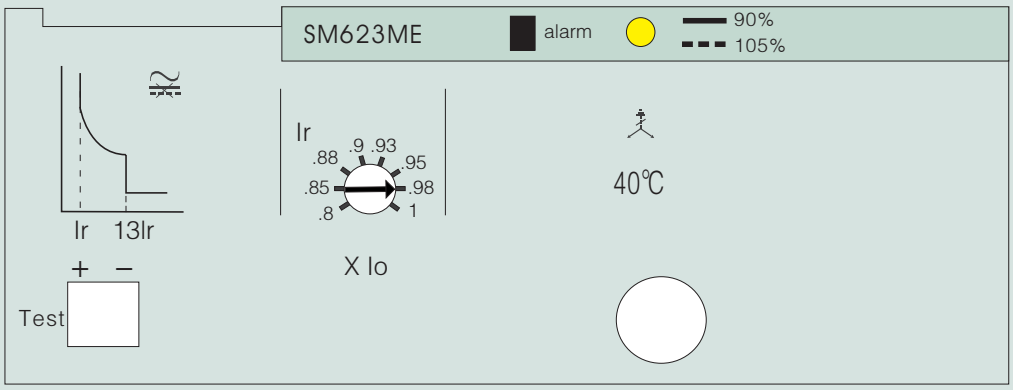
In Coefficient	0.5	0.63	0.7	0.8	0.9	1		
Io Coefficient	0.8	0.85	0.88	0.9	0.93	0.95	0.98	1

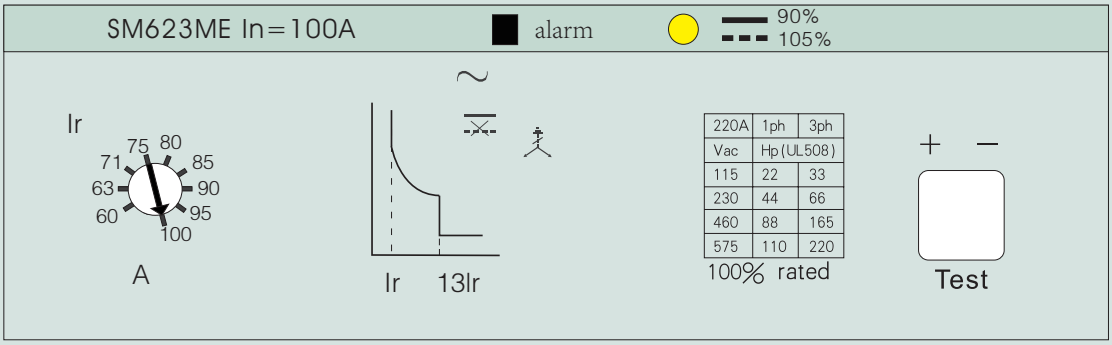
For example: The frame current is 400A. For example: The frame current is 250A

The setting of the release current Ir=In (frame current) × Io coefficient × Ir coefficient=250 × 0.7 × 0.95=166A;
The setting of short thermal release current Isd=Ir × Isd coefficient=166A × 10=1660A;
Instantaneous setting is frame current 11 times or more, as In × 11times=250A × 11=2750A(electric release of distribution breaker SM622SE SM622SE instantaneous setting root frame current 11 times or more, and the electric release of motor breaker SM622M, SM623ME instantaneous setting root frame current 13times of more.)

For example: The frame current is 400A. For example: The frame current 400A motor breakers setting

Release current setting Ir=In(frame curent) × Ir coefficient=400A × 0.9=360A



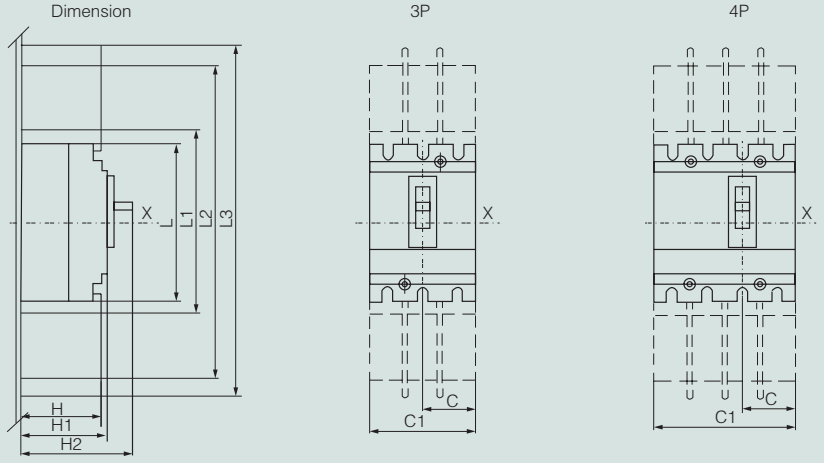


Setting(A) \ Release 22ME	Release current setting(A)									
40	24	25	27	28	30	32	34	36	38	40
50	30	31	33	35	37	40	42	45	47	50
80	48	51	54	57	60	64	68	72	76	80
100	60	63	67	71	75	80	85	90	95	100
150	90	95	101	107	113	120	127	135	142	150
220	132	140	148	157	166	177	187	198	209	220

Overall and mounting dimensions

Installation abot SM6-100~630

Type	H	H1	H2	L	L1	L2	L3	C	C1	C2
SM6/100/160/250D/N/H/L	81	86	111	160	188	321	357	52.5	105	140
SM6/400/630D/N/H/L	105	110	168	255	285	480	474	70	140	185



Keyword:3P(3P+N),4Pole, 30,50,100,300,500mA, Electric and thermal magnetic tripping device,Provide miniature circuit breaker lockouts

SM6L Series moulded case circuit breaker with earth leakage protection

Application

SM6L series molded case circuit breaker (hereinafter called circuit breaker) is applicable circuit of AC 50Hz/60Hz, rated insulation voltage 750V, rated operating current up to 630A, They are for distribution energy of electricity and infrequent making and circuit, in normal conditions. The rated current under 400A are provided with the function of the protection against overload and short circuit and under voltage.

Features and Benefits

- Earth leakage protection by associated Vigi Module;
- Compliance with international standards: IEC 60947-1 and 2;
- Breakers can be installed vertically or horizontally;
- The auxiliary device of SM6L is the same as SM6.

Earth fault protection module

Model	Vigi ME 3，4(1)	Vigi MH 3，4(1)	Vigi MB 3，4(1)
SM6L-100	●	●	-
SM6L-160	●	●	-
SM6L-250	-	●	-
SM6L-400	-	-	●
SM6L-630	-	-	●

Earth fault protection features

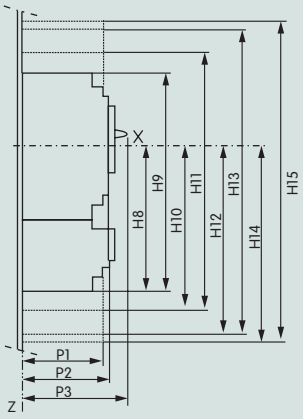
Sensitivity, I △ n(A)	Fixed	Adjust	Adjust
Delay time	0.3	0.03-0.3-1-3-10	0.3-1-3-10-30
Delay settings (ms)	Fixed<40	adjust 0 60(2) 150(2) 310(2)	adjust 0 60 150 310
Total breaking time (ms)	<40	<40 <140 <300 <800	<40 <140 <300 <800
Rated voltage(V) AC50/60Hz	200...440	200...440-440...550	200...440-440...550

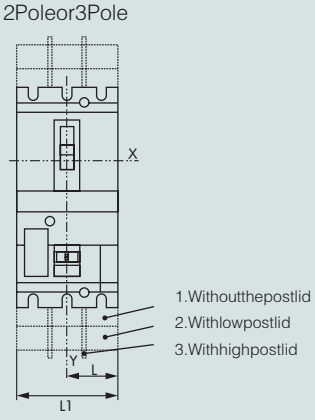
1.Vigi 3P module can be used in a 2 circuit breaker (3P/2t);
2.The sensitivity is set to 30mA, release instantaneous.

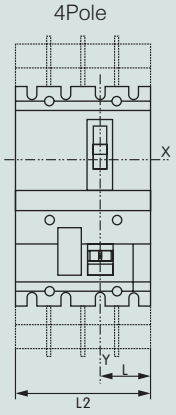
Dimensions

Overall and mounting dimension for SM6L-100 ~ 630 Fixed type

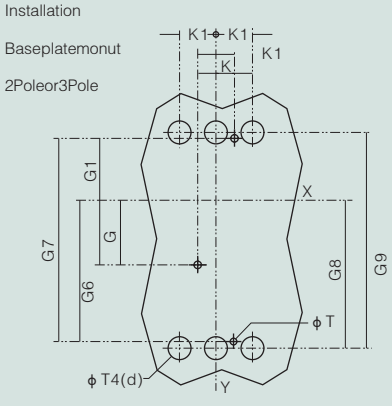
Model \ Code	H8	H9	H10	H11	H12	H13	H14	H15	L	L1	L2
SM6L-100/160/250N、H、L	155,5	236	169	263	235,5	396	253,5	432	52,5	105	140
SM6L-400/630N、H、L	227,5	355	242,5	385	340	580	337	574	70	140	185

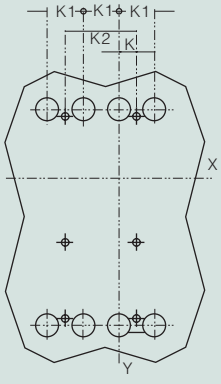






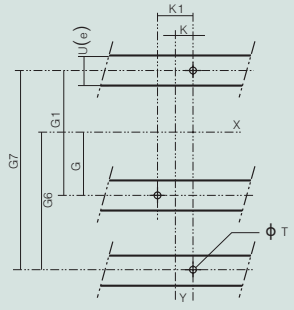
Model \ Code	G	G1	G6	G7	G8	G9	K	K1	K2	Φ1
SM6L-100/160/250N、H、L	62,5	125	137,5	200	145	215	17,5	35	70	22
SM6L-400/630N、H、L	100	200	200	300	213,5	327	22,5	45	90	32

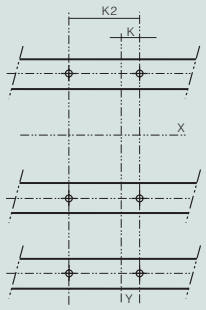




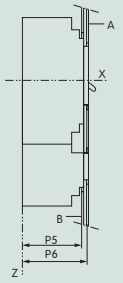
SM6L Series moulded case circuit breaker with earth leakage protection

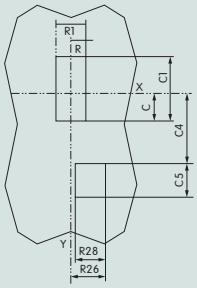
Model \ Code	P5	P6	R	R1	R2	R4	R5	R26	R28	C	C1	C2
SM6L-100/160/250N、H、L	83	88	14,5	29	54	108	143	14,5	29	29	76	54
SM6L-400/630N、H、L	107	112	31,5	63	71,5	143	188	32	29	41,5	116	92,5

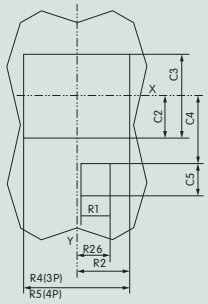




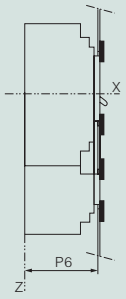
Model \ Code	P5	P6	R	R1	R2	R4	R5	R26	R28	C	C1	C2
SM6L-100/160/250N、H、L	83	88	14,5	29	54	108	143	14,5	29	29	76	54
SM6L-400/630N、H、L	107	112	31,5	63	71,5	143	188	32	29	41,5	116	92,5

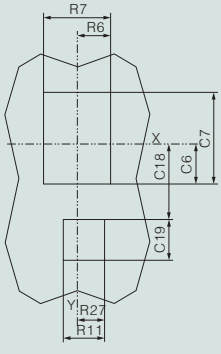






Model \ Code	P6	R6	R7	R12	R13	R27	C6	C7
SM6L-100/160/250N、H、L	88	29	58	43	86	29	43	104
SM6L-400/630N、H、L	112	46,5	93	63	126	47	56.5	146





Keyword:1P,3P(3P+N),4Pole, easy operation, economy opplication, Similar EZD model Schneider

SM6S Series moulded case circuit breaker

Application

SM6S MCCB is simple and universal solution to fit all the needs in terms of low voltage protection.

Specifications

Type		SM6S100F	SM6S100N	
Number of poles In	at 40℃	3	1	3-4
Rated current(A)		15,16,20,25,30,32,40,45 50,60,63,75, 80,100	15,16,20,25, 30,32,40 45, 50,60,63,75,80,100	15,16,20,25, 30,32,40,45 50,60,63,75,80,100
Rated insulation voltage(V)		690	690	690
Rated impulse withstand volatge(kV) Uimp		6	6	6
Rated operational voltage(V)	AC 50/60Hz	550	415	550
	DC	250	125	250
Electrical characteristics as per IEC 60947-2,EN60947-2,JISC8201-2-1				
Ultimate breaking capcity(kA rms)	Icu AC 50/60Hz 110/130V	25	25	25
	220/230/240V	25	18	25
	380V	10	2.5	18
	400/415V	10	2.5	15
	400V	7.5	-	10
	550V	5	-	5
	DC 125V(1P)	5	5	5
	250V(2P in series)	5	-	5
Rated service breaking capacity (kA rms)	Ics %Icu 110/400V	50%	50%	50%
	415/550V	50%	50%	50%
Suitability for isolation		■	■	■
Utilisation category		A	A	A
Pollution degree		3	3	3
Endurance(C-O cycles)	Mechanical	8500	8500	8500
	Electrical In/415V	1500	1500	1500

Type		SM6S250F	SM6S250N	SM6S400N	SM6S400H
Number of poles In	at 40℃	3	3-4	3-4	3-4
Rated current(A)		100,125,150,160 175,200,225,250	100,125,150,160 175,200,225,250	250,300,320 350,400	250,300,320 350,400
Rated insulationvoltage(V)		690	690	690	690
Rated impulse withstand volatge(kV) Uimp		6	6	6	6
Rated operational voltage(V)	AC 50/60Hz	550	550	550	550
	DC	250	250	250	250
Electrical characteristics as per IEC 60947-2,EN60947-2,JISC8201-2-1					
Ultimate breaking capcity(kA rms)	Icu AC 50/60Hz 110/130V	25	50	-	-
	220/230/240V	25	50	85	100
	380V	18	25	36	50
	400/415V	18	25	36	50
	400V	15	20	36	50
	550V	5	8	15	20
	DC 125V(1P)	5	20	-	-
	250V(2P in series)	5	20	20	40
Rated service breaking capacity (kA rms)	Ics %Icu 110/400V	50%	50%	50%	50%
	415/550V	50%	50%	-	-
Suitability for isolation		■	■	■	■
Utilisation category		A	A	A	A
Pollution degree		3	3	3	3
Endurance(C-O cycles)	Mechanical	10000	10000	4000	4000
	Electrical In/415V	5000	5000	1000	1000

ELECTRIC
Suntree
XinChi Electric

High breaking capacity

Small size,Light weight, nice exterior

With circuit breaker lock

Keyword:1P,2P,3P(3P+N),4Pole, Apply for isolator switch, Electric and thermal magnetic tripping device,Provide miniature circuit breaker lockouts,Similar ABB

SM8 Series moulded case circuit breaker

Application

SM8 series Molded case circuit breaker(hereinafter referred to as MCCB) is the new series MCCB, which is developed strictly according to international standards and manufactured with advanced technology by XinChi Electric&Science Technology CO.,LTD.
This product complies with IEC60947-2.
The MCCB, having rated insulation voltage 500V(Inm ≤ 160A) to (Inm ≥ 250A) is designed to be used for distribution network of having rated current 10A to 1600A, rated operational voltage 380/400V to 660/690, intended for power distribution, protection of electrical equipments and circuits against overload, short-circuit and under voltage, and also for unfrequent switching of electric circuits in most cases. MCCB with frame rating up to and including 400A can be used for unfrequent starting, and interruption of squirrel cage motors, and for protection of motors against overload, short-circuit and under voltage.

SM8 series circuit breakers can be equipped with electric accessories and mechanical accessories, such as under voltage release, shunt release, auxiliary contacts, alarm contact, electric operating mechanism and rotary mechanical operating handle etc.
SM8 series intelligent molded case circuit breakers are equipped with electronic release with the function of protection of electric circuits and equipments not only against overload, short-circuit and under voltage, but also against earthing failure. The intelligent functions of it are: current failure; output of over-current signal and monitoring of circuit breaker open/close, particularly, the intelligent trip unit is designed with interface available for remote measuring, remote adjusting, remote controlling and remote communicating between circuit breakers and computers.

Technical features

Complete range of current ratings which enable users to solve all protection requirements of installation

with high short-circuit breaking capacity
B-Basic type: general breaking capacity
N-Ordinary type: ordinary breaking capacity
S-Standard type: standard breaking capacity
H-Higher breaking type: higher breaking capacity

Degree of rated ultimate short-circuit breaking capacities

Frame rating Inm(A)	Rated ultimate short-circuit breaking capacity(Icu)							
	20kA	25kA	30kA	35kA	50kA	65kA	70kA	85kA
125A	B	N						
160A		B	N					
250A				N	S	H		
400A				N	S	H		
800A				N	S		H	
1600A					S			H

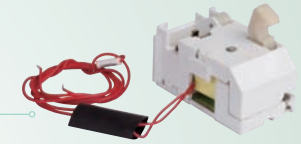
Modular design for entire series

SM8 series is developed with modular design in order to have a perfect structure of entire series. The circuit breaker can be assembled with various functions available for different applications, just by fitting with appropriate modular of electric accessories, mechanical accessories, electronic accessory, trip unit, socket and connection accessories.

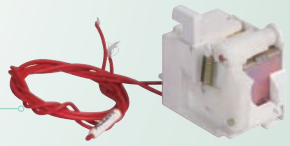
Breaker

Manual operating mechanism

Auxiliary contacts



Shunt release



Under voltage release

Alarm contacts

SM8 Series moulded case circuit breaker

Installation versions

Frame rating Inm(A)	Rated ultimate short-circuit breaking capacity(Icu)					
	Fixed version		Plug-in version		Draw-out version	
125A	●	●	●	●	-	-
160A	●	●	●	●	-	-
250A	●	●	●	●	●	●
400A	●	●	●	●	●	●
800A	●	●	-	-	●	●
1600A	●	●	-	-	●	●

Type of operation

Frame rating Inm(A)	Direct handle operation(code:non)	Electric operation(code:D)	Rotary handle operation(code:Z)
125A	●	●	●
160A	●	●	●
250A	●	●	●
400A	●	●	●
800A	●	●	●
1600A	●	●	●

Wiring and mounting

Frame rating Inm(A)	Wiring and mounting										
	Fixed version					Plug-in version		Draw-out version			
	Front terminals	Rear terminals			Extended front terminals	Front terminals	Screw	Front terminal	Rear terminals		
		Screw	Horizontal	Vertical					Screw	Horizontal	Vertical
125A	●	●	-	-	●	●	●	-	-	-	-
160A	●	●	-	-	●	●	●	-	--	-	-
250A	●	●	-	-	●	●	●	●	●	-	-
400A	●	●	-	-	●	●	●	●	●	●	●
800A	●	-	-	-	●	-	-	●	-	●	●
1600A	●	-	●	●	-	-	-	●	-	●	●

Note: The extended front terminal is an accessory part of busbar provided for user, which it can be supplied upon request in order

SM8 Series moulded case circuit breaker

Type of operation

Frame rating Inm(A)	For distribution protection(code:non)	For motor protection(code:2)
125A	●	●
160A	●	●
250A	●	●
400A	●	●
800A	●	-
1600A	●	-

Installation versions

Name of Accessories	Codes of Accessories					
	Instantaneouse release		Thermal magnetic release		Electronic release	
	3-poles	4-poles	3-poles	4-poles	3-poles	4-poles
Nothing	200		300		400	
Alarm contacts	208		308		408	
Shunt release	210		310		410	
Alarm contacts and shunt release	218		318		418	
Auxiliary contacts	220		320		420	
Auxiliary contacts and alarm contacts	228		328		428	
Under-voltage release	230		330		430	
Under-voltage release and alarm contacts	238		338		438	
Shunt release and auxiliary contacts	240		340		440	
Shunt release, auxiliary and alarm contacts	248		348		448	
Two sets of auxiliary contacts	260		360		460	
Two sets of auxiliary contacts and noe set of alarm contacts (For Inm=630A~1600A)	268		368		468	
Under voltage release and auxiliary contacts	270		370		470	
Under voltage release, auxiliary and alarm contacts	278		378		478	
Shunt release, double auxiliary contacts	280		380			
Under voltage release, double auxiliary contacts	290		390			

SM8 Series moulded case circuit breaker

Installation versions

Rated current of frame size Imn	Rated current In	Current settings of inverse time delay 40℃ setting Ir1	
		A/B/C Phase	N Pole
125A	10A	10A	10A
	12.5A	12.5A	12.5A
	16A	16A	16A
	20A	20A	20A
	25A	25A	25A
	32A	32A	32A
	40A	40A	40A
	50A	50A	50A
	63A	63A	63A
	80A	80A	80A
	100A	100A	100A
	125A	125A	125A
160A	32A	22.4~32A	22.4~32A
	40A	28~40A	28~40A
	50A	35~50A	35~50A
	63A	44.1~63A	44.1~63A
	80A	56~80A	56~80A
	100A	70~100A	70~100A
	125A	87.5~125	87.5~125A
	160A	112-~160A	112-160A
250A	160A	112~160A	112~160A
	(180A)	126~180A	126~180A
	200A	140~200A	140~200A
	(225A)	157~225A	157~225A
	250A	175~250A	175~250A
400A	250A	175~250A	175~250A
	315A	220.5~315A	220.5~315A
	(350A)	245~350A	245~350A
	400A	280~400A	280~400A
1600A	630A	630A	630A
	700A	700A	700A
	800A	800A	800A
1600A	1250A	1250A	1250A
	1600A	1600A	1600A

SM8 Series moulded case circuit breaker

Opening under overload conditions(inverse time delay)

● For power distribution

The MCCB used for power distribution is energized on all poles at the ambient air temperature+40℃ .Its opening charateristics of inverse time delay without temperature compensation are shown The following table.

Opening characteristics of inverse time delay for power distribution

Name of test current	Times of test current	Conventional time		Start state
		In<63A	In ≥ 63A	
Conventional tripping current	1.05Ir1	≥ 1h	≥ 2h	Cold state
Conventional non tripping current	1.30Ir1	<1h	<2h	Heat stale

● For motor protection

The MCCB used for motor protection is energized on all poles at the ambient air temperature+40℃ .Its opening characteristics of inverse time delay without temperature compensation are shown The following table.

Opening characteristics of inverse time delay for motor protection

Name of test current	Times of test current	Conventional time	Start state
		In ≤ 400	
Conventional tripping current	1.05Ir1	≥ 2h	Cold state
Conventional non tripping current	1.20Ir1	<2h	Heat stale

Variable parameter of thermal overload protective current setting

Rated current of frame size Imn	Variable parameter						
	+10℃	+20℃	+30℃	+40℃	+50℃	+55℃	+60℃
125A	1.2	1.14	1.08	1.0In	0.93	0.89	0.85
160A	1.15	1.10	1.05	1.0In	0.94	0.91	0.88
250A	1.14	1.10	1.05	1.0In	0.95	0.91	0.87
400A	1.13	1.11	1.04	1.0In	0.92	0.88	0.85
800A	1.10	1.08	1.03	1.0In	0.84	0.8	0.77
1600A	1.08	1.08	1.02	1.0In	0.8	0.76	0.73

SM8 Series moulded case circuit breaker

Characteristics of thermal magnetic release

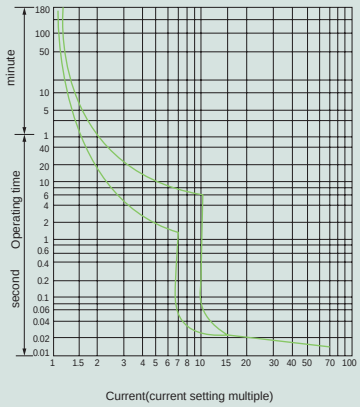
Range of current settings of instantaneous tripping								
Rated current of frame size Imn	Rated current In	Setting Ir3						Accuracy
		For power distribution protection		For motor protection		Special values		
		A/B/C Phase	N Pole	A/B/C Phase	N Pole	A/B/C Phase	N Pole	
125A	10A	500A	500A	500A	500A	160A	160A	± 20%
	12.5A	500A	500A	500A	500A	200A	200A	
	16A	500A	500A	500A	500A	160A	160A	
	20A	500A	500A	500A	500A	200A	200A	
	25A	500A	500A	500A	500A	250A	250A	
	32A	500A	500A	500A	500A	160A	160A	
	40A	500A	500A	500A	500A	200A	200A	
	50A	500A	500A	500A	500A	250A	250A	
	63A	630A	630A	756A	756A	320A	320A	
	80A	800A	800A	960A	960A	400A	400A	
	100A	1000A	1000A	1200A	1200A	500A	500A	
160A	32A	500A	500A	500A	500A	160A	160A	
	40A	500A	500A	500A	500A	200A	200A	
	50A	500A	500A	630A	500A	250A	250A	
	63A	630A	630A	800A	630A	320A	320A	
	80A	800A	800A	1200A	800A	400A	400A	
	100A	1000A	1000A	1200A	1200A	500A	500A	
	125A	1250A	1250A	1500A	1500A	630A	630A	
	160A	1600A	1600A	1920A	1920A	800A	800A	
250A	160A	1600A	1600A	1920A	1920A	800A	800A	
	180A	1800A	1800A	2160A	2160A	1000A	1000A	
	200A	2000A	2000A	2400A	2400A	1000A	1000A	
	225A	2250A	2250A	2700A	2700A	1250A	1250A	
	250A	2500A	2500A	3000A	3000A	1250A	1250A	
400A	250A	2500A	2500A	3780A	3780A	1250A	1250A	
	315A	3150A	3150A	4200A	4200A	1600A	1600A	
	350A	3500A	3500A	4800A	4800A	1600A	1600A	
	400A	4000A	40000A	7560A	7560A	2000A	2000A	
800A	630A	6300A	6300A	7560A	7560A	3150A	3150A	
	700A	7000A	7000A	8400A	8400A	3500A	3500A	
	800A	8000A	8000A	9600A	9600A	4000A	4000A	
1600A	1250A	12500A	12500A	15000A	15000A	6300A	6300A	
	1600A	16000A	16000A	19200A	19200A	8000A	8000A	

SM8 Series moulded case circuit breaker

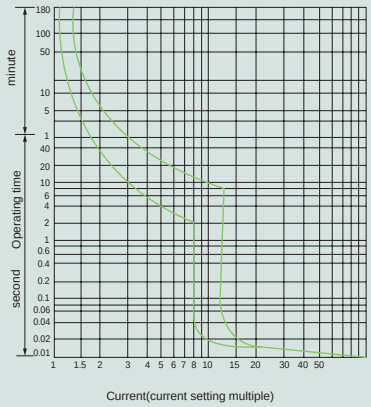
Power loss of moulded case circuit breaker

Rated current of frame size Imn	Three-pole total power loss					
	Fixed version		Plug-in version		Draw-out version	
	Thermomagnetic version	Electronic version	Thermomagnetic version	Electronic version	Thermomagnetic version	Electronic version
125A	25	-	30	-	30	
160A	30	-	40	-	40	-
250A	50	40	65	55	65	55
400A	135	60	165	90	165	90
800A	225	135	280	190	280	190
1600A		260		360		360

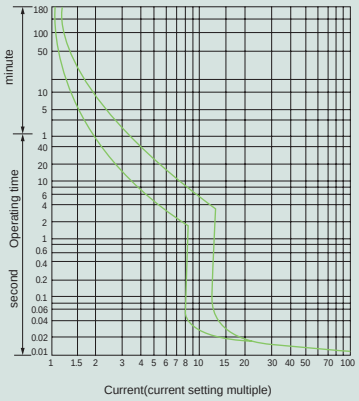
SM8-125



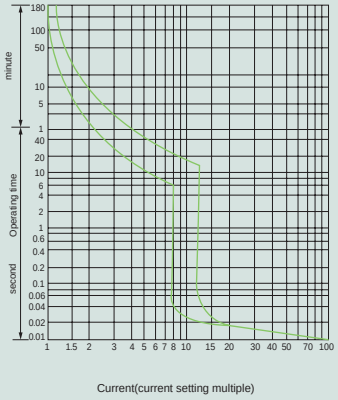
SM8-160



SM8-250



SM8-400



SM8-800

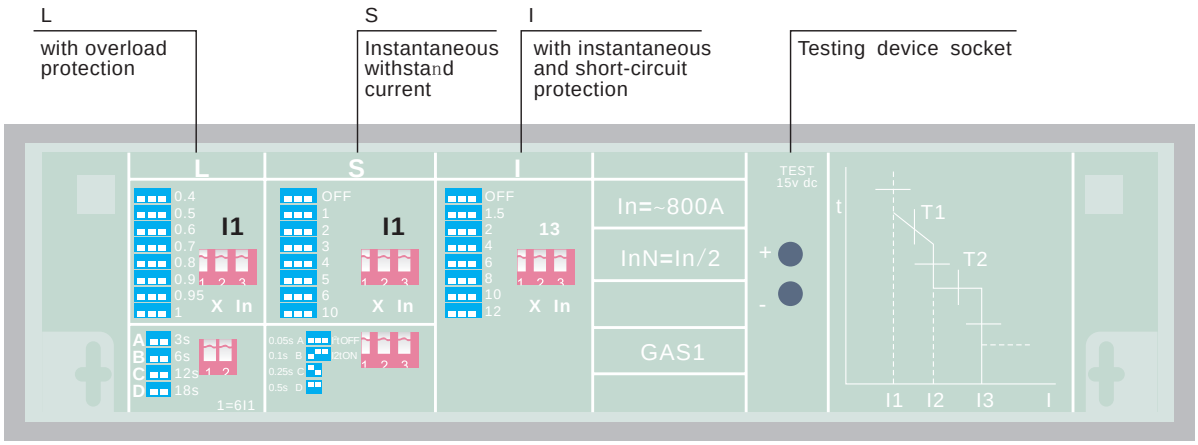
Keyword:Electronic release, tripping current, tripping time is adjust, with load indicator, High breaking capacity, similer ABB

SM8-M Series moulded case circuit breaker with intelligent electronic release

Identification and types of intelligent electronic release

Model number	Application	Description	
SM8-M	For power distribution For motor protection	M Tpey	Having specified protective characteristics for distribution and motor protections Having quick setting switch on the front plate

SM8-M electronic release with the I or L1 function



Characteristics of SM8-M intelligent electronic release

Long time delay protection for overload					
Settings I1		(0.4/0.5/0.6/0.7/0.8·0.9/0.95/1.0)×In+OFF(Out of protection)			
Inverse time delay	1.05Ir1	≥ 2h Non tripping			
	1.30Ir1	≤ 1h tripping			
Settings t1	T1(s)	3	6	·12	18
	2.00Ir1(s)	27	54	108	162
	6.00Ir1(s)	3	6	·12	18
	7.20Irl(s)	2.1	4.2	8.3	12.5
Thermal memory function (It can be cleared if the) power is disconnected in 30 min		(Standard)+OFF (Out of protection)			
Instantaneous protection					
Settings I3		(1.5/2/4/6/·8/10/12)×In+OFF(Out of protection)			
Inverse time delay	1.05Ir1	≥ 2h Non tripping			
	1.30Ir1	≤ 1h tripping			
	6.00Ir1(s)				
	7.20Irl(s)				
Theramal memory function(It be cleared if the power is disconnected in 30 min)		(Standard)+OFF (Out of protection)			

SM8-M Series moulded case circuit breaker with intelligent electronic release

Thermal memory

Repeated over load may cause conductor heated. However, the solid-state release, having the heat effect as bimetal after time delay tripping of the fault current, such as over load or short-circuit, can release the over load energy complete in 30 min, and release the short-time delay short-circuit energy complete in 15min. If the circuit breaker is reclosed in those period, and the overload or short-circuit occurs in the circuit, the tripping time of it will be even shorter, thus ensures the circuit or equipment to be protected effectively. The accumulated heat effect is able to be cleared just by resetting the solid-state release after each disconnection of the power (This function can be switched off upon the needs of the customer). The pre-alarm function and the load monitoring function depend very much on the characteristics of over load protection. Normally, the thermal memory is set in off state at the time of shipping.

Characteristics of inverse short-time delay

For the characteristics of short-time delay of the solid-state release, following two optional protective modes. ① Definite time delay protection：In case of the fault current exceeding the value of settings, the circuit breaker will trip according to the setting of inverse time delay, the time of delay action in delay is. In case the higher over urrent(1>Ir2,1>8Ir1) happens, the solid-state release will change to the definite time delay protection automatically. However, for the solid-state release having thermal memory function, the heat effect will be accumulated. Normally, the characteristics of a circuit breaker is set at definite time delay state at the time of shipping

Installation positions

Name of accessories	Code of accessories			Installation position		
				Left side	Central	Right side
Alarm contacts	208	308	408			Alarm
Shunt release	210	310	410	Shunt		
Alarm contacts and shunt release	218	318	418	Shunt		Alarm
Double auxiliary contacts	220	320	420			Auxiliary
Single auxiliary contacts	221	321	421			Auxiliary
Auxiliary contacts and alarm contacts	228	328	428			Auxiliary+Alarm
Under voltage release	230	330	430	Under voltage		
Under voltage release and alarm contacts	238	338	438	Under voltage		Alarm
Shunt release and auxiliary contacts	240	340	440	Shunt		Auxiliary
Shunt release, auxiliary and alarm contacts	248	348	448	Shunt		Auxiliary+Alarm
Auxiliary and alarm contacts	258	358	458			Auxiliary+Alarm
Two sets of auxiliary and alarm contacts	260	360	460			Two sets of auxiliary
Two sets of auxiliary contacts and one alarm contacts	268	368	468			Auxiliary+Alarm
Under voltage release and auxiliary contacts	270	370	470	Under voltage		Auxiliary
Under voltage release, auxiliary and alarm contacts	278	378	478	Under voltage		Auxiliary+Alarm
Shunt release, double auxiliary contacts	280	380				
Under voltage release, double auxiliary contacts	290	390				

Keyword:3P(3P+N),4Pole, 30,50,100,300,500mA, Electric and thermal magnetic tripping device,Provide miniature circuit breaker lockouts

SM8L Series moulded case circuit breaker with earth leakage protection

Features and Benefits

- Circuit breaker consists of electric leakage module, electronic mechanic release and zero-sequence current transformer;
- Residual current and leaking current delay time can adjust;
- Compact structure, easy for installation;
- The installation of circuit breaker are vertical installation and horizontal installation.

Specifications

Residual current release	SM8L-110
Using technology	Electronic
Operation	With coil
Operating voltage(V)	50～500
Operating frequency(Hz)	50/60Hz ± 10%
Testing voltage range(V)	50～500
Rated operating current(A)	Up to 250
Thershold value of trip I △ n(A)	0.03-0.1-0.3-0.5-3
Residual operation current allowances(%)	+0,-20
Trip time(S)	0-0.1-0.25-0.5-1-1.5
Trip time allowanoce(%)	± 20
Trip signal	●
Self-powered	●
Remote switch-off input	●
Alarm signal at 50% △ n	●
Only for Alternate current	●
Button of A used is AC	●
Low sensitivity	●
High sensitivity	●
Fixed under MCCB(vertically)	●
Fixed beside MCCB (plain way)	●
Dimension(L × H × P)	120 × 120 × 70(RC212/2)ZLM1-160 140 × 170 × 108(RC212/3)ZLM1-250
Standard	IEC60947-2 appendix B IEC255-4 and IEC1000:Defult releasing protection

SM8L Series moulded case circuit breaker with earth leakage protection

Conditions

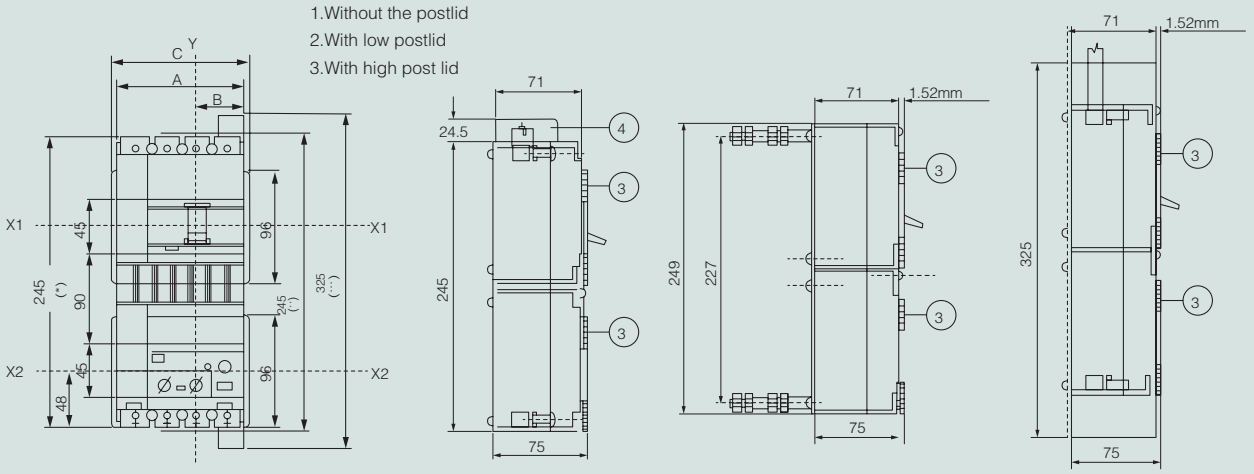
- The altitude not exceeding 2000m;
- The ambient temperature is from +40℃ ~ - 5℃ ; and 24 hour can't over 35℃ ;
- Ambient enviornment freeing from explosive danger and air or dust which may cause corrosion of metal or weakness of insulation ;
- Ambient enviornment freeing from erosion of rain or snow;
- Pollution degree 3;
- Main circuit instalation calss Ⅲ .Auxiliary circuit instalation calss Ⅱ ;
- Protection level : IP20 ;
- Install breaker according to operation instruction.

Specifications

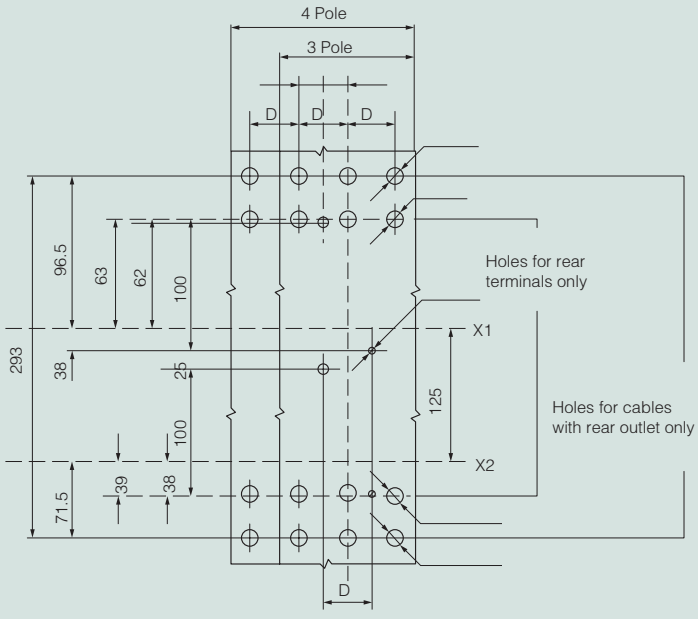
Residual current release		SM8L-111
Power supply voltage AC(V)		80~500
Power supply voltage DC(V)		48~125
Operation frequency(Hz)		50/60Hz ± 10%
Tripping threshold adjustment,I △ n		
Rated residual operating current,I △ n	1a range of adjustments(A)	0.03-0.05-0.1-0.3-0.5
	2a range of adjustments(A)	1-3.5-10-30
Trip time value adjustments(s)		0-0.1-0.2-0.3-0.5-0.7-1-2-3-5
Pre-alarm threshold adjustments(%)		25~75
Range of use of threshold transformers		
Toroidal transformer Φ60(mm)(A)		0.03~30
Toroidal transformer Φ100(mm)(A)		0.03~30
Toroidal transformer Φ185(mm)(A)		0.1~30
Range of use of threshold transformers which can be opened		
Toroidal transformer Φ110(mm)(A)		0.03~30
Toroidal transformer Φ180(mm)(A)		0.03~30
Toroidal transformer Φ230(mm)(A)		0.1~30
Alarm pre-threshold signal		Yellow flashing LED 1N.O change over contact
Open remaining switch contact point technical data		6A/250V AC50/60Hz
Residual-current relay trip signal		Yellow flashing LED 2 changeover contacts(N.O.N.C; N.O)
		6A/250V AC50/60Hz
Remote opening command		N.O contact point, Trip time 15ms
Connection to the troroidal transformer		By means of 4 twisted conductors Maximum length 5m
Dimension(L × H × P)(mm)		96 × 96 × 131.5
Drilling for assembly on door(mm)		92 × 92

SM8L Series moulded case circuit breaker with earth leakage protection

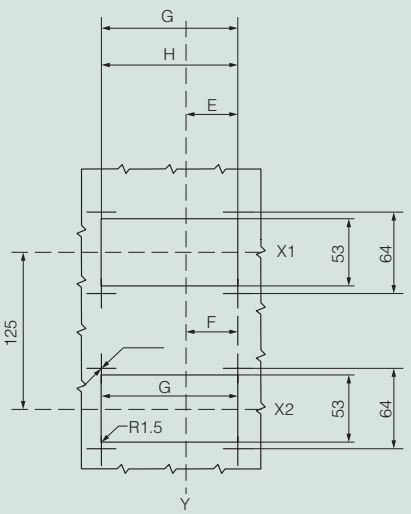
SM8L-160 overall and mounting dimension



Supporting steel plate drill hole chart

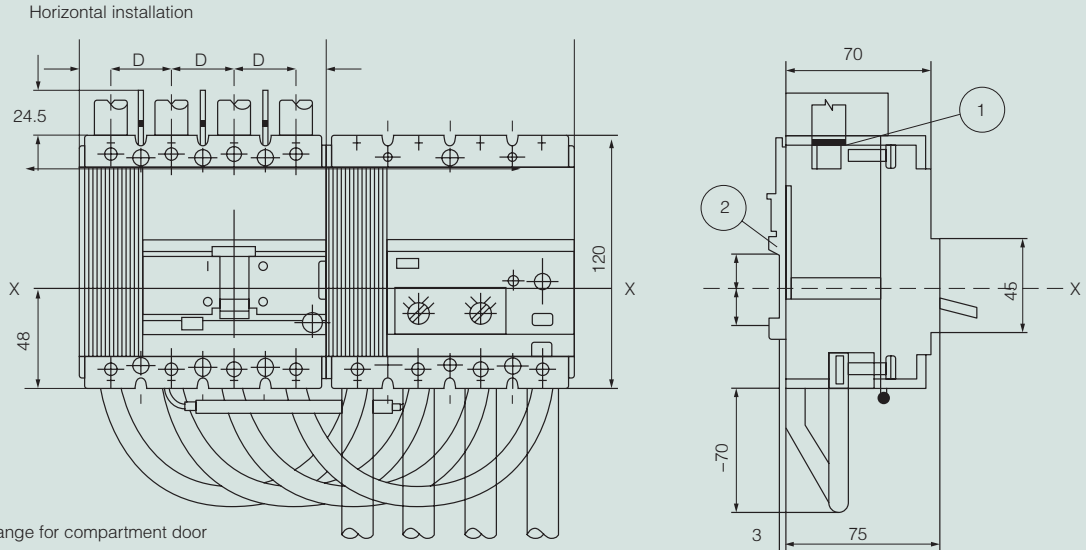


Switch cabinet door and dark attire flange drill hole chart



SM8L Series moulded case circuit breaker with earth leakage protection

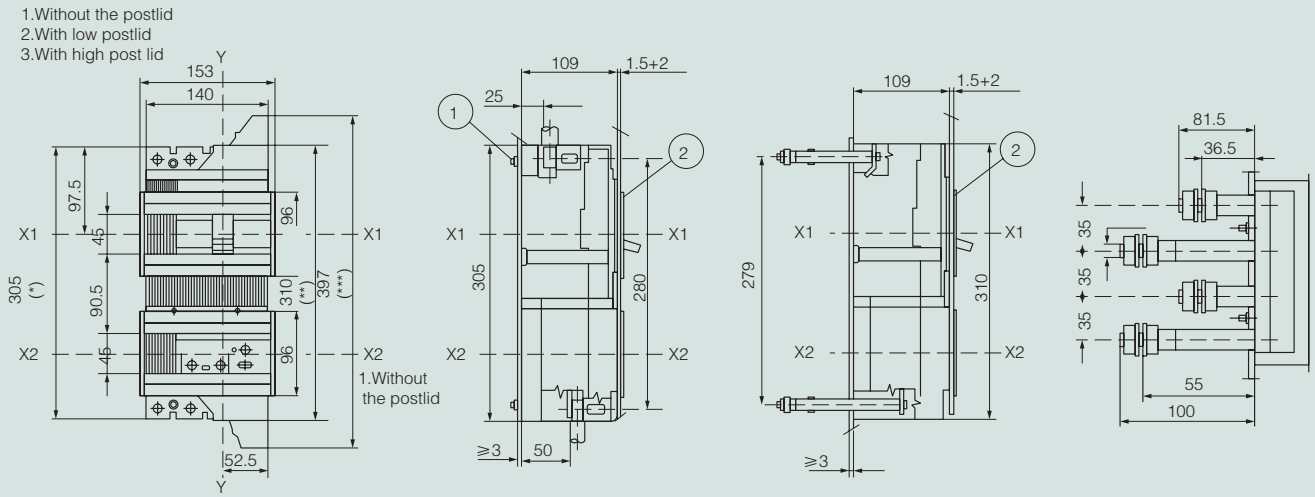
SM8L-160 overall and mounting dimension



Key
1.Flange for compartment door
2.Backer for fitting circuit–breaker on DIN channel(to order)
3.Separator plate
4.Sealable screws

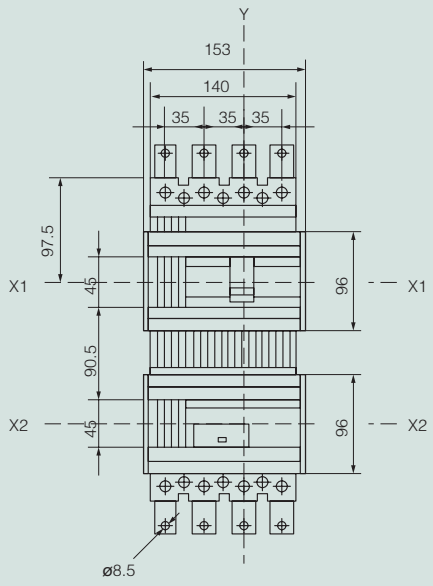
Model	A	B	C	D	E	F	G	H	I
SM8L-160+SM8L-110	120	145	133	30	49	47,7	128	125,5	240

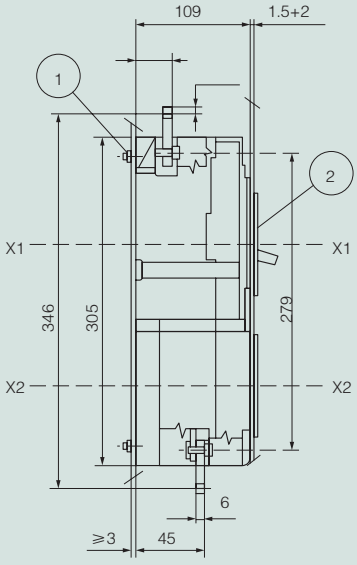
SM8L-250 overall and mounting dimension

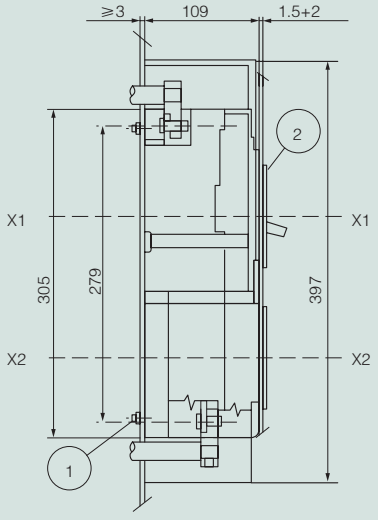


SM8L Series moulded case circuit breaker with earth leakage protection

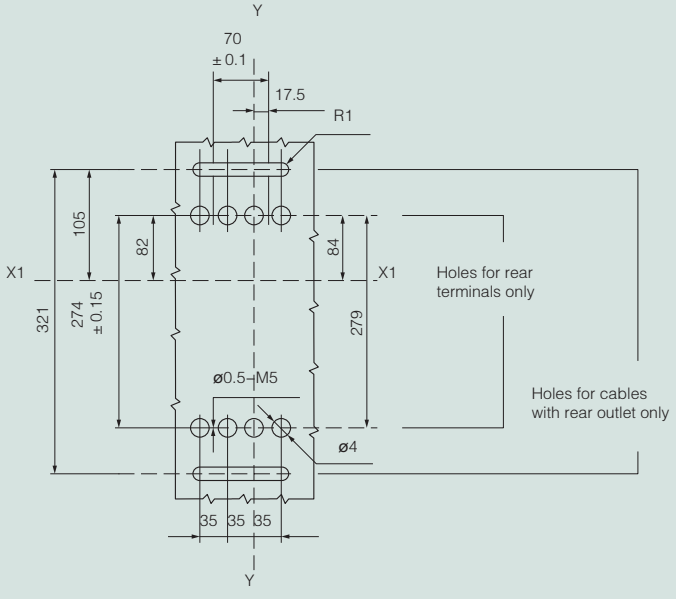
SM8L-250 overall and mounting dimension



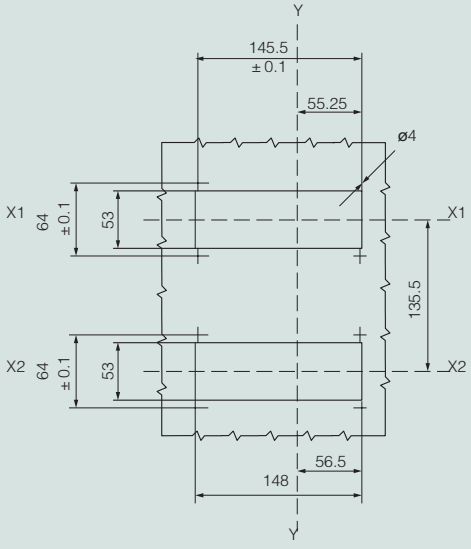




Supporting steel plate drill hole chart



Switch cabinet door and dark attire flange drill hole chart



ELECTRIC
Suntree
XinChi Electric

High breaking capacity
Nice exterior, Unique design
With circuit breaker lock

Keyword:1P,3P(3P+N),4Pole, Apply for isolator switch, Electric and thermal magnetic tripping device,Provide miniature circuit breaker lockouts,Similar ABB Tmax

SM8max Series moulded case circuit breaker

Thermal magnetic trip

In [A]	15	20	25	30	35	40	50	60	70	80	90	100	125	150	175	200	225	250	300	400	600	800
Neutral [A]	15	20	25	30	35	40	50	60	70	80	90	100	125	150	175	200	225	250	300	400	600	800
T1 (I_1=In)	■	■	■	■		■	■	■	■	■	■	■										
T2 (I_1=In)	■	■	■	■	■	■	■	■	■	■	■	■										
T3 (I_1=In)								■	■	■	■	■	■	■	■	■	■					
Ts3 (I_1=In)	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■					
T4 (I_1=In)	■	■																				
T4 (I_1=0.7...1xIn)				■		■	■			■		■	■	■		■		■				
T5 400 (I1=0.7...1xIn)																			■	■		
T6 (I_1=0.7...1xIn)																					■	■
T1																						
I_3 [A]	1000	1000	1000	1000		1000	1500	1500	1500	1500	1500	1500										
Neutral [A]	1000	1000	1000	1000		1000	1500	1500	1500	1500	1500	1500										
T2, T3																						
I_3 [A]	500	500	500	500	500	500	500	600	700	800	900	1250	1500	1750	2000	2250						
Neutral [A]	500	500	500	500	500	500	500	600	700	800	900	1250	1500	1750	2000	2250						
Ts3																						
I_3 [A]	500	500	500	500	500	500	500	600	700	800	900	1250	1500	1750	2000	2250						
Neutral [A]	500	500	500	500	500	500	500	600	700	800	900	1250	1500	1750	2000	2250						
T4, T5																						
I_3 [A]	500	500		500		500	500			400 800		500 1000	625 1250	750 1500		1000 2000		1250 2500	1500 3000	2000 4000	3000 6000	4000 8000
Neutral [A]	500	500		500		500	500			400 800		500 1000	625 1250	750 1500		1000 2000		1250 2500	1500 3000	2000 4000	3000 6000	4000 8000
T6																						
I_3 = 5...10xIn [A]																					3000 6000	4000 8000
Neutral [A] - 100%																					3000 6000	4000 8000
Neutral [A] - 50%																					3000 6000	4000 8000

SM8max Series moulded case circuit breaker

Application

The SM8max T1 1p, T1, T2, T3, Ts3, T4, T5 and T6 circuit breakers can be fi tted with thermal magnetictrip units and are used in protection of alternating and direct current networks with a range of use from15 A to 800 A. They allow the protection against overload with a thermal device (with fi xed threshold forT1 1p, T1, T2, T3, Ts3, T4 and adjustable threshold for T4, T5 and T6) realized using the bimetal technique,and protection against short-circuit with a magnetic device (with fi xed threshold for T1, T2, T3, Ts3 andT4 up to 50 A and adjustable threshold for T4, T5 and T6).

The four-pole circuit breakers are always supplied with the neutral protected by the trip unit and withprotection of the neutral at 100% of the phase settings up to 100 A. For higher settings, the protection of the neutral is at 50% of the phase setting unless the protection of the neutral at 100% of the phasesetting is required.

Specifications

Type			SM8max-160 1P	SM8max-160				SM8max-250	
Rated uninterrupted current Iu(A)		(A)	160	160				250	
Poles		(Nr)	1	3/4				3/4	
Rated service voltage Ue		(AC)50/60Hz	240	690				690	
		(DC)	125	500				500	
Rated impulse with stand voltage Uimp		(kV)	8	8				8	
Rated insulation voltage Ui			500	800				800	
Test voltage at industrial frequency for 1 min.			3000	3000				3000	
Rated ultimate short circuit breaking capacity Icu			B	N	S	H	L	N	S
	(AC)50/60Hz 220/230V	(kA)	25*	65	85	100	120	50	85
	(AC)50/60Hz 380/415V	(kA)	-	36	50	70	85	36	50
	(AC)50/60Hz 400V	(kA)	-	30	45	55	75	25	40
	(AC)50/60Hz 500V	(kA)	-	25	30	36	50	20	30
	(AC)50/60Hz 690V	(kA)	-	6	7	8	10	5	8
Mechanical life	(No.operatios)		25000	25000				25000	
	(No. Hourlyoperatios)		240	240				240	
Electrical life	(No.operatios)		8000	8000				8000	
	(No. Hourlyoperatios)		120	120				120	

Type			SM8max-250/320					SM8max-400/630					SM8max-600/800/1000			
Rated uninterrupted current Iu(A)		(A)	250/320					400/630					600/800/1000			
Poles		(Nr)	3/4					3/4					3/4			
Rated service voltage Ue		(AC)50/60Hz	690					690					690			
		(DC)	750					750					750			
Rated impulse with stand voltage Uimp		(kV)	8					8					8			
Rated insulation voltage Ui			1000					1000					1000			
Test voltage at industrial frequency for 1 min.			3500					3500					3500			
Rated ultimate short circuit breaking capacity Icu			N	S	H	L	V	N	S	H	L	V	N	S	H	L
	(AC)50/60Hz 220/230V	(kA)	70	85	100	200	300	70	85	100	200	300	70	85	100	200
	(AC)50/60Hz 380/415V	(kA)	36	50	70	120	200	36	50	70	120	200	36	50	70	100
	(AC)50/60Hz 400V	(kA)	30	40	65	100	180	30	40	65	100	180	30	45	50	80
	(AC)50/60Hz 500V	(kA)	25	30	50	85	150	25	30	50	85	150	25	35	50	65
	(AC)50/60Hz 690V	(kA)	20	25	40	70	80	20	25	40	70	80	20	22	25	30
Mechanical life	(No.operatios)		20000					20000					20000			
	(No. Hourlyoperatios)		240					120					120			
Electrical life	(No.operatios)		8000(250A)-6000					7000(400A)-5000(630A)					7000(630A)-5000(800A)-4000(1000A)			
	(No. Hourlyoperatios)		120					120					120			

SM8max Series moulded case circuit breaker

SM8max Power distribution circuit breakers electrical characteristics

Type			SM8max T1 1p	SM8max T1	SM8max T2	SM8max T3	SM8max Ts3
Frame size		[A]	100	100	100	225	150
Number of poles		[No.]	1	3-4	3[6]-4	3-4	2-3-4
Rated voltage	AC (50-60 Hz)	[V]	347	600Y/347	480	600Y/347	600
	DC	[V]		500		500	600
Interrupting ratings			B	N	S H	N S	N H L
	240 V AC	[kA rms]		50[2]	65 150	50 65	65 100 150
	227 V AC	[kA rms]	18[1]				
	347 V AC	[kA rms]	14[1]				
	480 V AC	[kA rms]		22[2]	35 65	25 35	25 50 85[5]
	600Y/347 V AC	[kA rms]		10		10 10	
	600 V AC	[kA rms]					14 14 25
	250 V DC (2 poles in series)	[kA rms]		25		25 35	
	500 V DC (3 poles in series)	[kA rms]		25		25 35	
	500 V DC (2 poles in series)	[kA rms]					35 50 65
	600 V DC (3 poles in series)	[kA rms]					20 35 50
Versions	TMF		F	F	F-P	F-P	F-P-W
	TMD/TMA		■	■	■	■	■
	MA				■	■	■
	Electronic				■		
		PR221DS					
		PR222DS/P					
		PR222DS/PD-A					
		PR231/P					
	H	PR232/P					
	W 3p	PR331/P					
	D	PR332/P					
Dimensions		[in/mm]	5.12/130	5.12/130	5.12/130	5.9/150	6.7/170
		[in/mm]	1/25.4	3/76	3.54/90	4.13/105	4.13/105
		[in/mm]	2.76/70	2.76/70	2.76/70	2.76/70	4.07/103.5
Mechanical life		[No. operations]	25000	25000	25000	25000	25000

(1) In 15 A = 10 kA @ 277 V AC - 10 kA @ 347 V AC
(2) In 15 A = 35 kA @ 240 V AC - 14 kA @ 480Y/277 V AC
(3) T5 600 with electronic trip units only and in three pole version
(4) 2p T4250 and T5400 available only in N interrupting rating
(5) In from 15 A up to 30 A = 65 kA @ 480 V AC
(6) T2H 100 3p, T4H 250 3p, T4V 250 3p, T5H 400 3p, T5V 400 3p are defi ned current limiting. See thecurrent limiting chapter

F = Fixed
P = Plug-in
W = Draw-out

SM8max Series moulded case circuit breaker

SM8max Power distribution circuit breakers electrical characteristics

SM8max Ts3	SM8max T4	SM8max T5	SM8max T6	SM8max T7
225	225	400-600[3]	800	1000-1200
2-3-4	2[4]-3[6]-4	2[4]-3[6]-4	3-4	3-4
480	600	600	600	600
500	600	600	600	
N H L	N S H L V	N S H L V	N S H L	S H L
65 100 150	65 100 150 200 200	65 100 150 200 200	65 100 200 200	65 100 150
25 50 65	25 35 65 100 150	25 35 65 100 150	35 50 65 100	50 65 100
	18 25 35 65 100	18 25 35 65 100	20 25 35 42	25 50 65
20 35 50	25 35 50 65 100	25 35 50 65 100	35 35 50 65	
	16 25 35 50 65	16 25 35 50 65	20 20 35 50	
F-P-W	F-P-W	F-P-W	F-W	F-W
■	■			
■	■	■	■	
	■	■	■	
	■	■	■	
	■	■	■	
				■
				■
				■
				■
6.7/170	8.07/205	8.07/205	10.55/268	10.55/268
4.13/105	4.13/105	5.51/140	8.26/210	8.26/210
4.07/103.5	4.07/103.5	4.07/103.5	4.07/103.5	6.06/154(toggle)-7/178(motor
25000	20000	20000	20000	10000

(1) In 15 A = 10 kA @ 277 V AC - 10 kA @ 347 V AC
(2) In 15 A = 35 kA @ 240 V AC - 14 kA @ 480Y/277 V AC
(3) T5 600 with electronic trip units only and in three pole version
(4) 2p T4250 and T5400 available only in N interrupting rating
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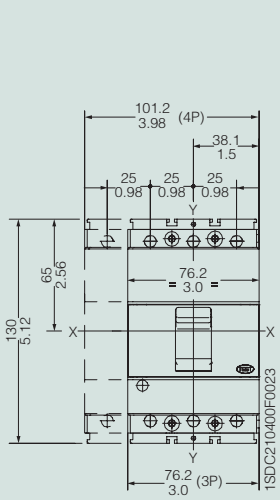
(6) T2H 100 3p, T4H 250 3p, T4V 250 3p, T5H 400 3p, T5V 400 3p are defi ned current limiting. See thecurrent limiting chapter

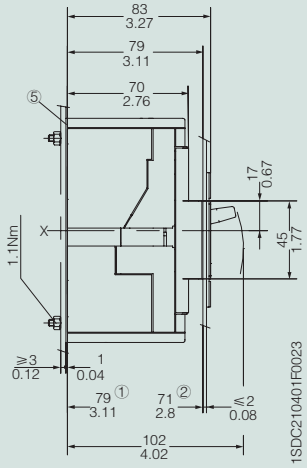
F = Fixed
P = Plug-in
W = Draw-out

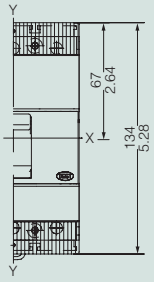
Overall dimensionstmax t1 and single-pole tmax t1

Fixed circuit breaker

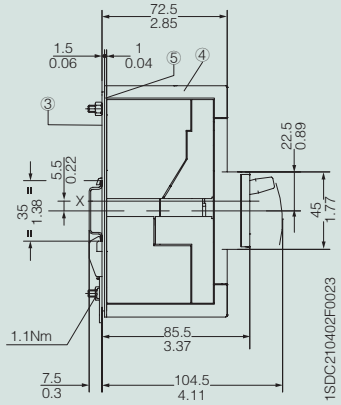


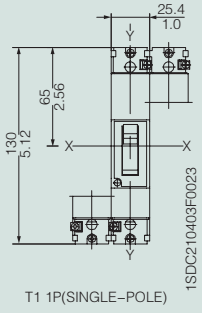
Fixing on sheet





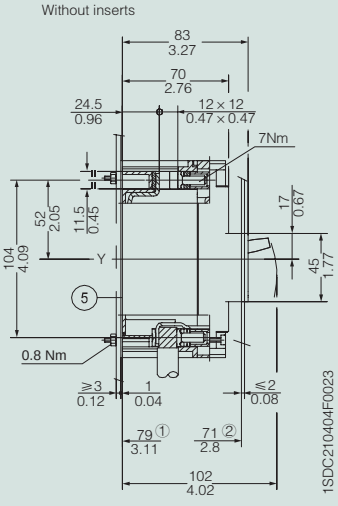
Fixing on DIN EN 50022 rail

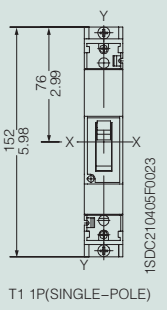




T1 1P(SINGLE–POLE)

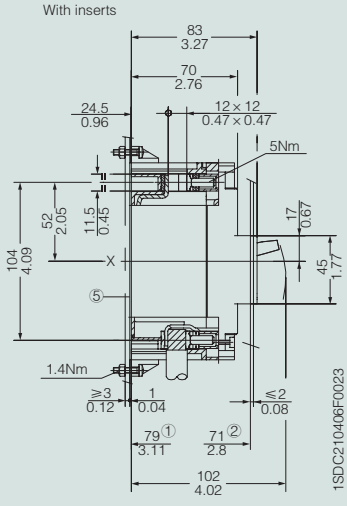
Without inserts





T1 1P(SINGLE–POLE)

With inserts

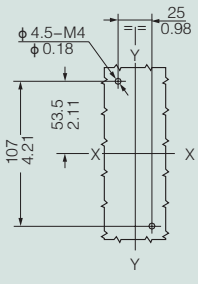


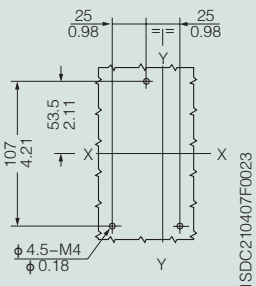
Caption

① Depth of the switchboard in the case of circuit breaker with face not extending from the compartment door, with or without flange
② Depth of the switchboard in the case of circuit breaker with face extending from the compartment door, without flange
③ Bracket for fixing onto rail
④ Bottom terminal covers with IP40 degree of protection
⑤ Insulating plate

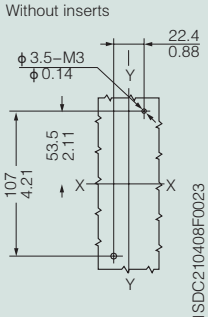
Drilling templates for support sheet

For front terminals

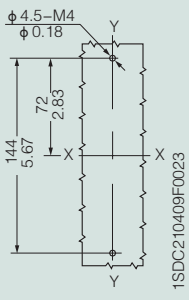




Without inserts



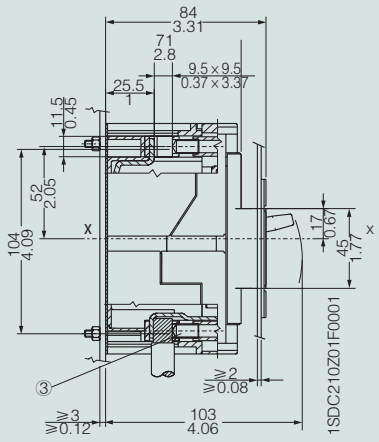
With inserts



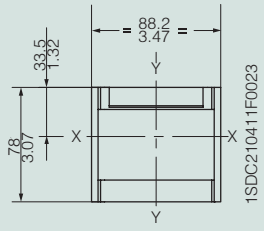
Overall dimensions tmax t1 and single-pole tmax t1

Terminals

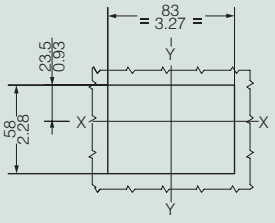
Front for copper/aluminium cables–FC Cual



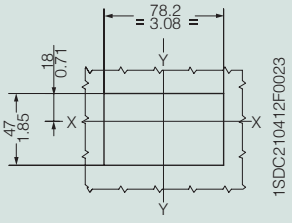
Flange for the compartment door



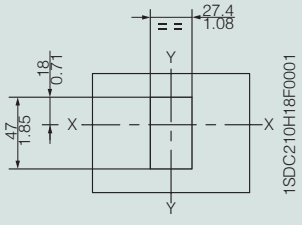
Drilling templates of the compartment door



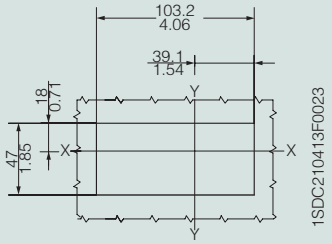
With flange and circuit breaker face flush with door (3–4POLES)



Without flange and circuit breaker face flush with door (3–4POLES) or extending (3POLES)



(SINGLE–POLE)

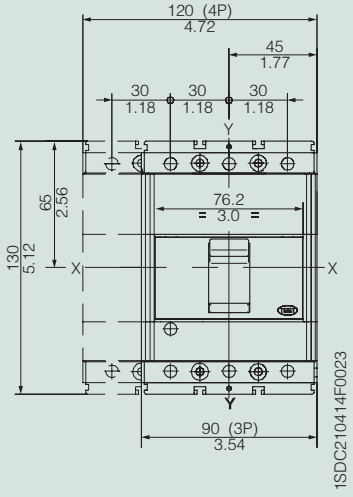


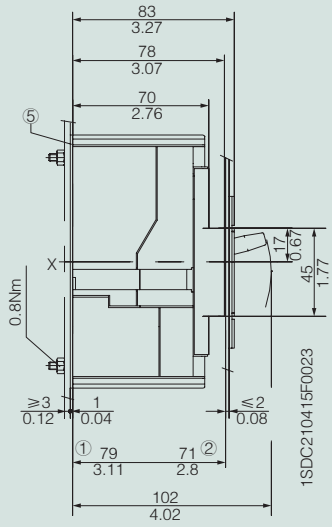
Without flange and circuit breaker face extending(4POLES)

Overall dimensions tmax t2

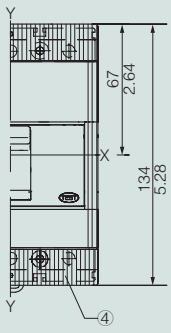
Fixed circuit breaker

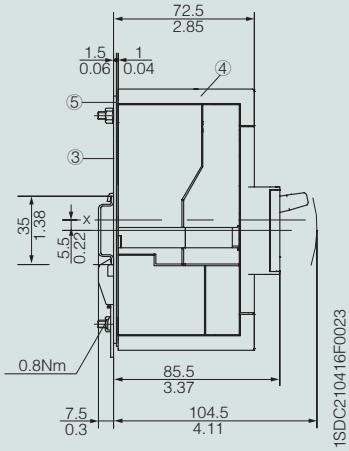
Fixing on sheet



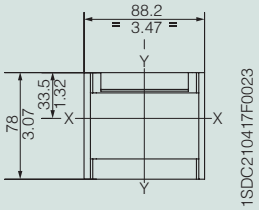


Fixing on DIN EN 50022 rail

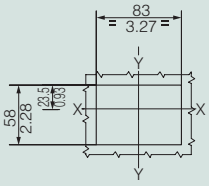


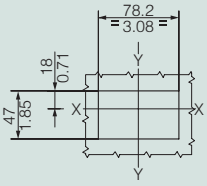


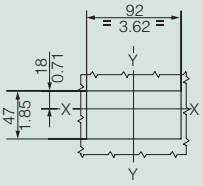
Flange for the compartment door

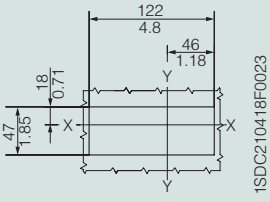


Drilling tempaltes of the compartment door







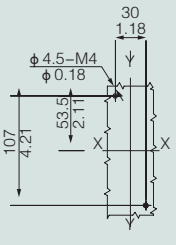


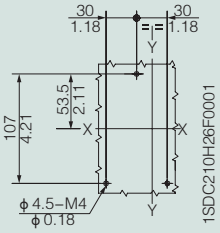
Caption

① Depth of the switchboard in the case of circuit breaker with face not extending from the compartment door, with or without flange
② Depth of the switchboard in the case of circuit breaker with face extending from the compartment door, without flange
③ Bracket for fixing onto rail
④ Low terminal covers with degree of protection IP40
⑤ Insulating plate

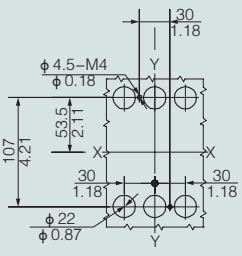
Drilling templates for support sheet

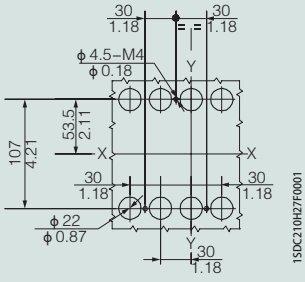
For front terminals





For rear terminals





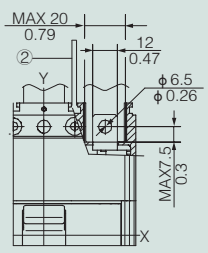
Overall dimensions tmax t2

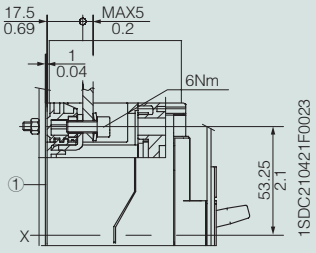
Terminals

Caption

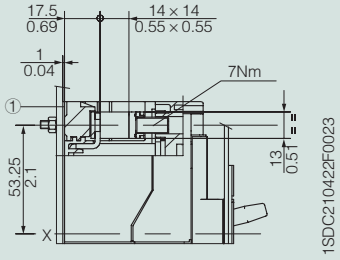
① Insulating base plate (compulsory)
② Insulating barriers between phases (compulsory)

Front–F

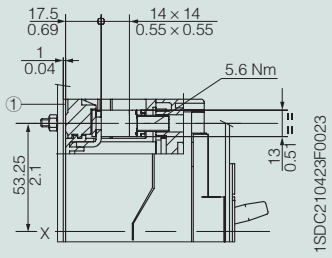




Front for copper cables–FC Cu



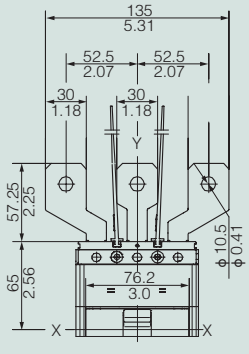
Front for copper/aluminium cables–
FC CuAL 1/10 AWG/50mm²

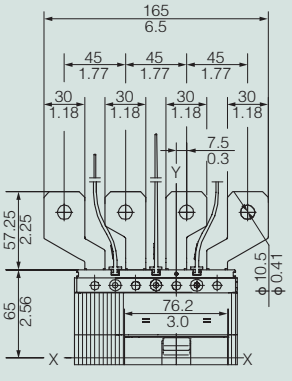


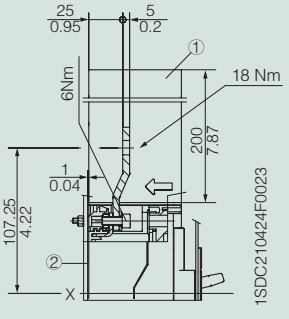
Caption

① Insulating barriers between phases (compulsory)
② Insulating plate

Front extended spread–ES







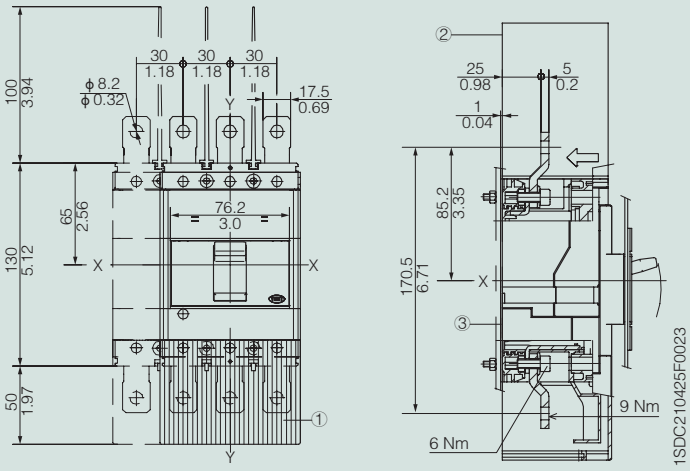
Overall dimensions tmax t2

Terminals

Caption

① High terminal covers with degree of protection IP40
② Insulating barriers between phases (compulsory without1)

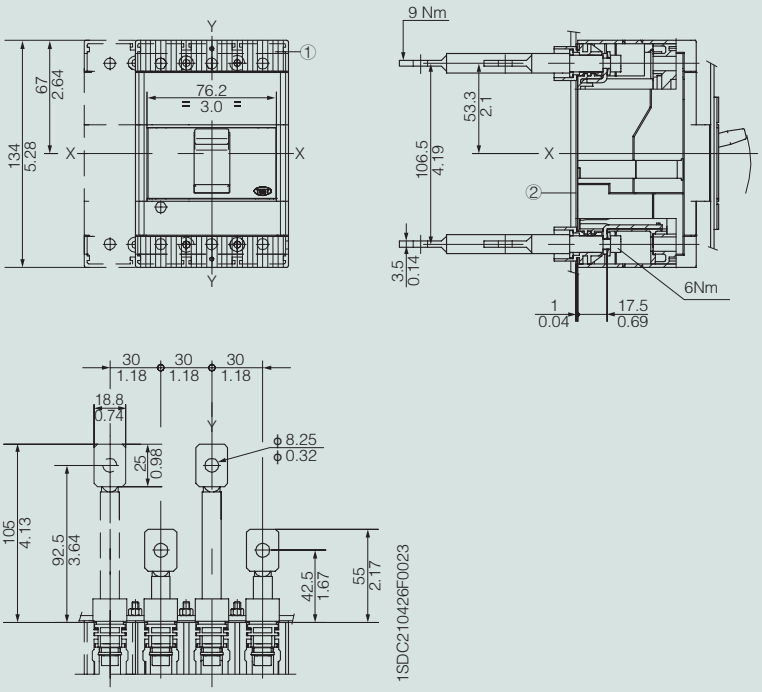
Front extended – EF



Caption

① Low terminal covers with degree of protection IP40
② Insulating barriers between phases

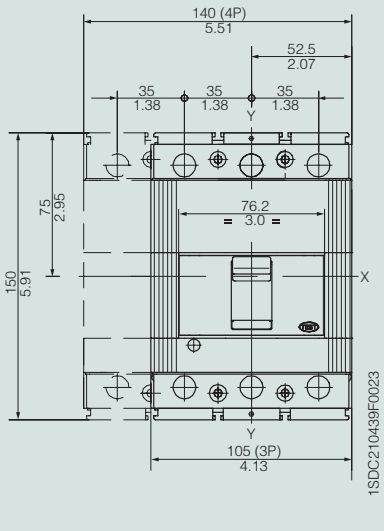
Rear – R

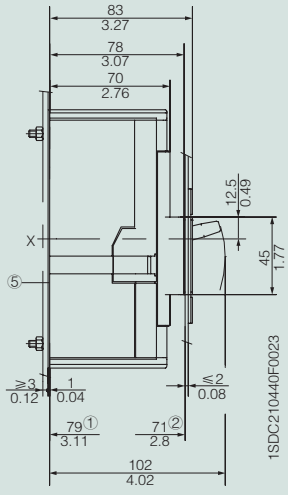


Overall dimensions tmax t2

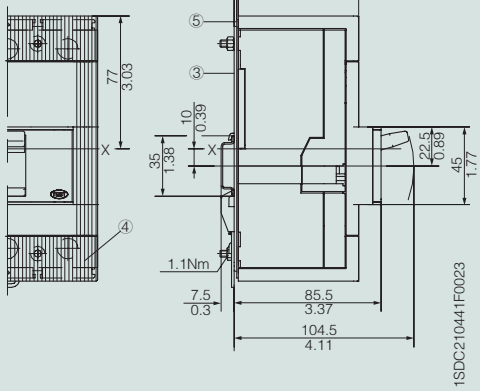
Fixed circuit breaker

Fixing on sheet





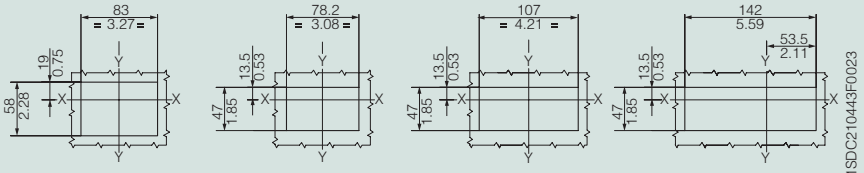
Fixing on DIN EN 50022 rail



Caption

① Depth of the switchboard in the case of circuit breaker with face not extending from the compartment door, with or without flange
② Depth of the switchboard in the case of circuit breaker with face extending from the compartment door
③ Bracket for fixing on rail
④ Low terminal covers with degree of protection IP40
⑤ Insulating plate

Drilling templates of the compartment door



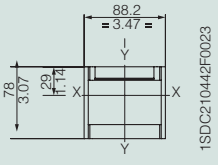
With flange and circuit breaker face flush with door (3–4 POLES)

Without flange and circuit breaker face flush with door (3–4 POLES)

Without flange and circuit breaker face extending (3 POLES)

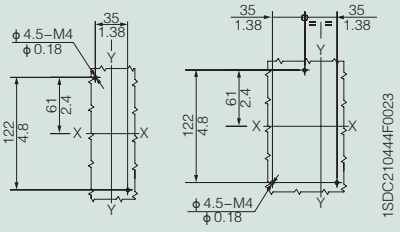
Without flange and circuit breaker face extending (4 POLES)

Flange for compartment door



Drilling templates for support sheet

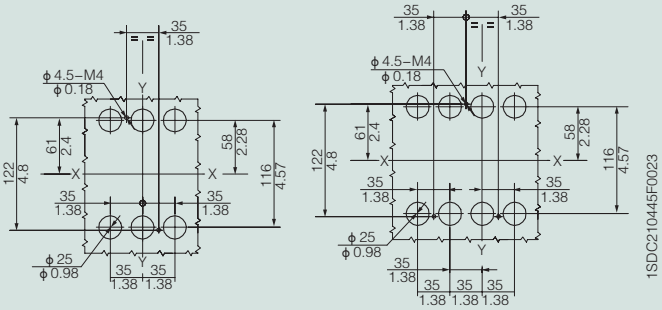
For front terminals



3 POLES

4 POLES

For rear terminals



3 POLES

4 POLES

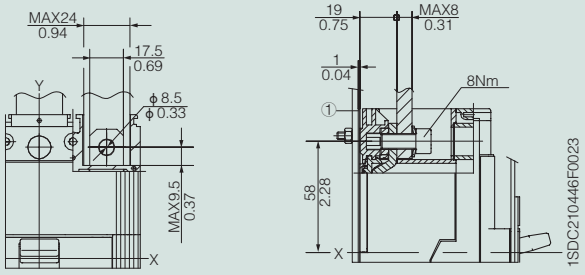
Overall dimensions tmax t3

Terminals

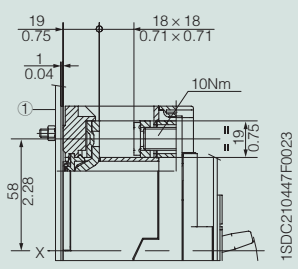
Caption

① Insulating base plate (compulsory)

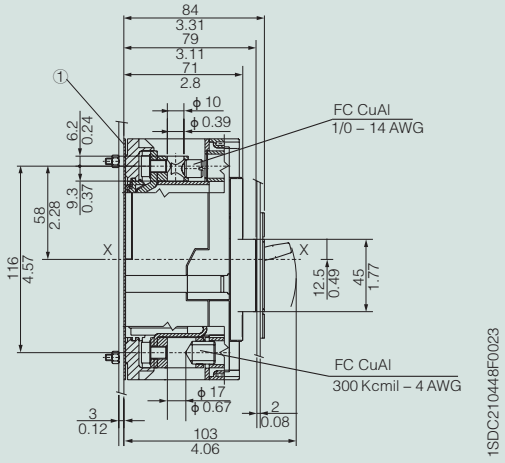
Front – F



Front for copper cables – FC Cu



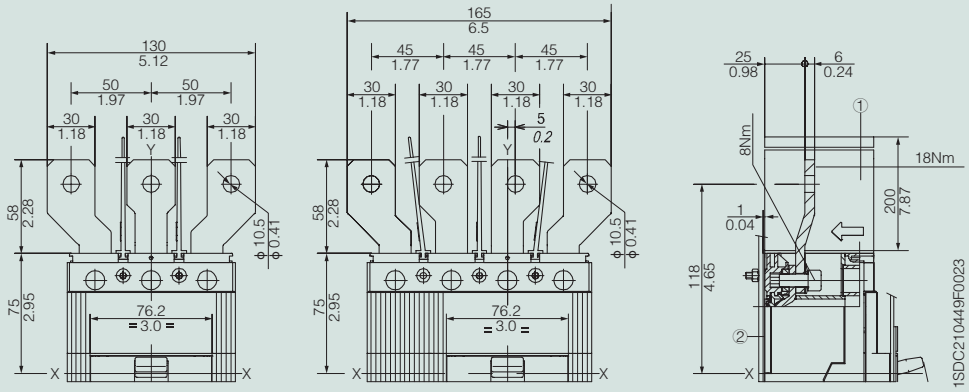
Front for copper/aluminium cables – FC CuAl 185 mm²



Caption

① Insulating barriers between phases (compulsory)
② Insultating plate

Front extended spread – ES



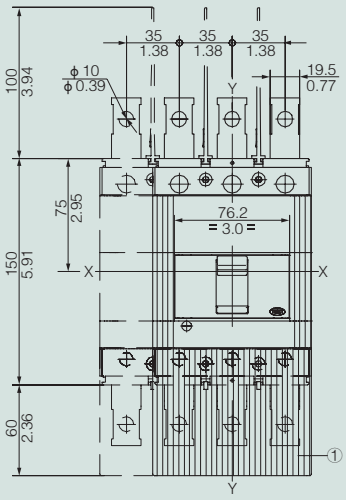
Overall dimensions tmax t3

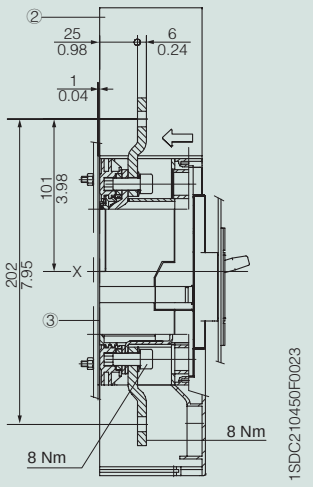
Terminals

Caption

① High terminal covers with degree of protection IP40
② Insulating barriers between phases (compulsory without1)
③ Insulating plate

Front extended – EF





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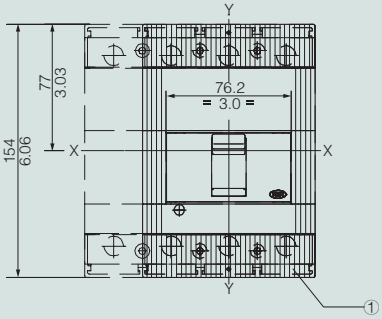
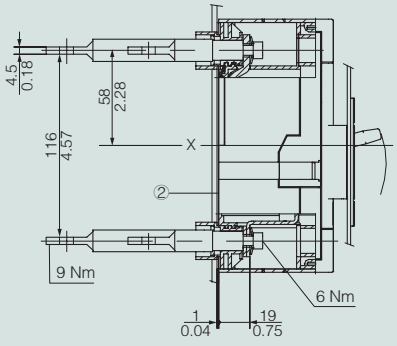
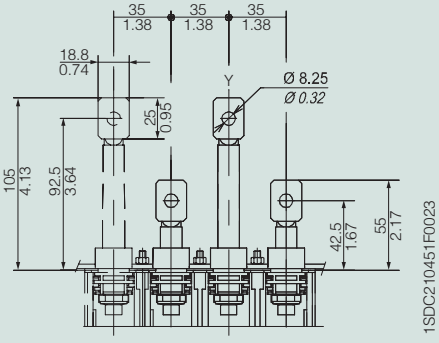
Caption

① Low terminal covers with degree of protection IP40
② Insulating plate

Rear – R





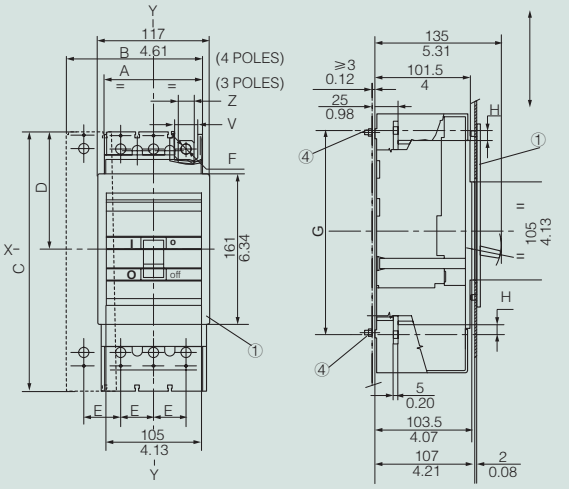


1SDC210451F0023

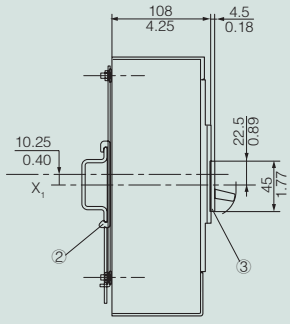
Overall dimensions tmax t3

Fixed circuit breaker

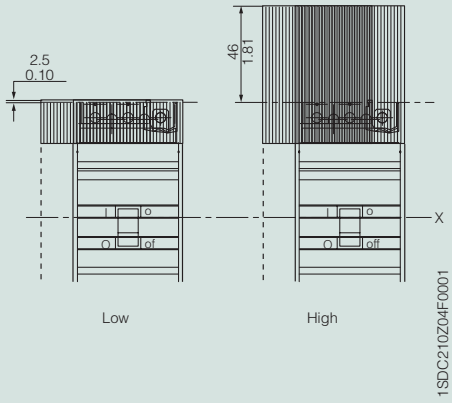
Mounting on sheet metal



Mounting on
DIN EN 50023 channel



Terminal covers
(to order when not included in supply)



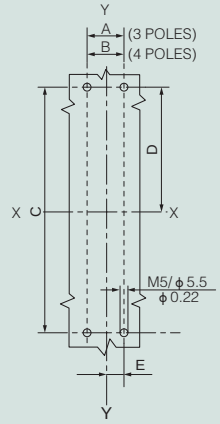
Caption

① Flange for compartmentdoor
② Bracket for mounting on DIN EN 50023 channel
③ 1.77” (45 mm) front flange
④ Tightening torque 2 Nm

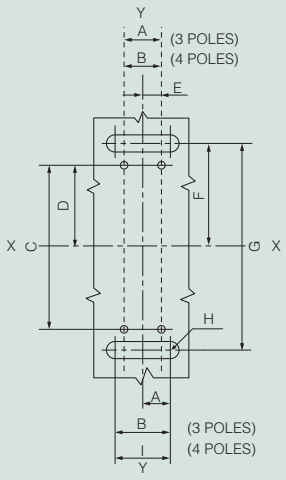
	A	B	C	D	E	F	G	H	I	L	V	Z
Ts3	105	140	170	87.25	35	Φ8	143	10	73.75	18x18	24	17.5
	4.13	5.51	6.69	3.44	1.38	Φ0.31	5.63	0.39	2.90	0.71x0.71	0.94	0.69

Template for drilling sheet metal support
(minimum thickness of sheet metal: 0.12” /3 mm)

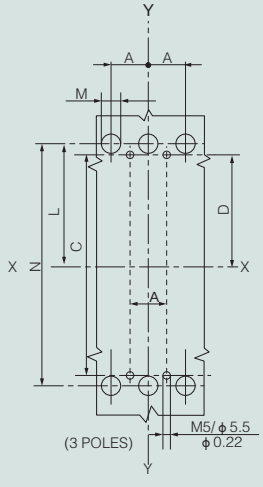
For terminals:
Front for flat bars
Extended front
Front for cables

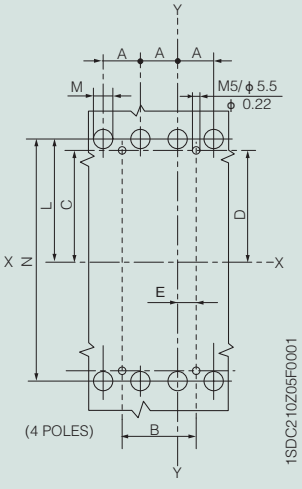


For terminals for rear
Cu/Al cables



For threaded rear terminals



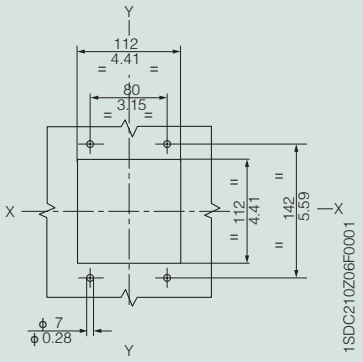


Overall dimensions tmax t3

Terminals

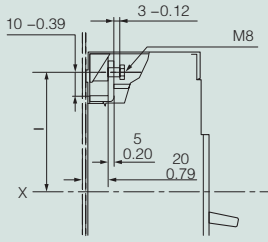
Template for drilling compartment door and fi tting flange

(thickness of sheet metal: 0.08” /2 mm)

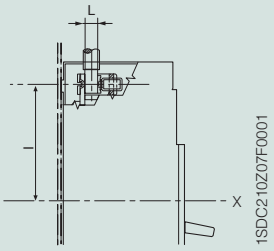


	A	B	C	D	E	F	G	H	I	L	M	N
Ts3	35	70	139	71.75	17.5	94.75	185	R15	105	73.75	Φ24	143
	1.38	2.76	5.47	2.82	0.69	3.73	7.28	R0.59	4.13	2.90	Φ0.94	5.63

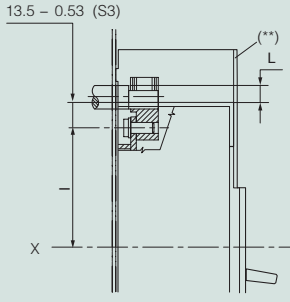
Front for flat bars



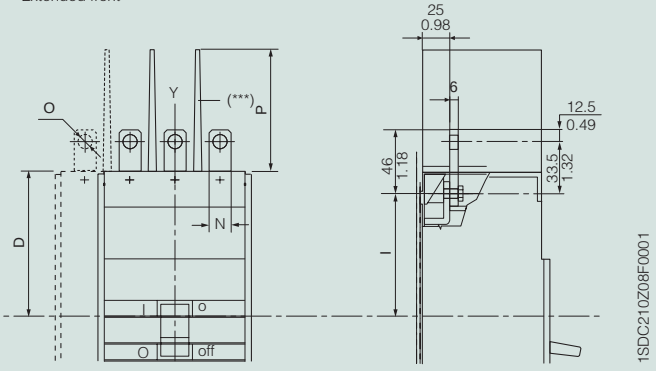
Front for cables



For rear Cu/Al cables



Extended front



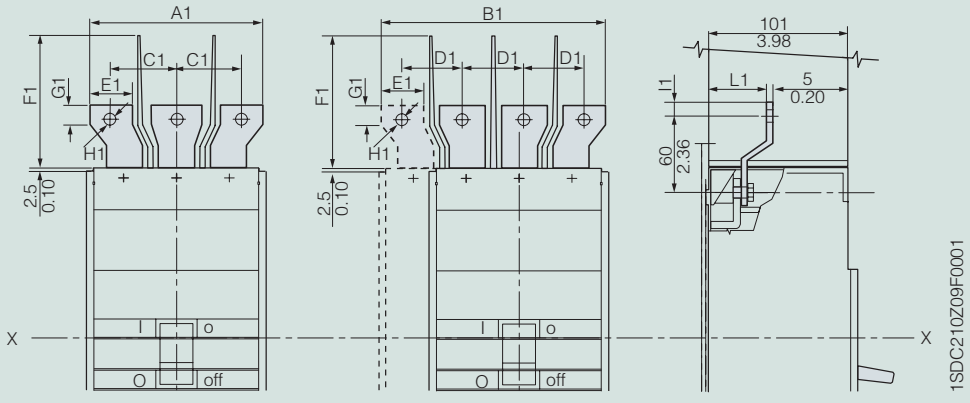
(**) high terminal covers included in supply

(***) Separator plates between the phases to order

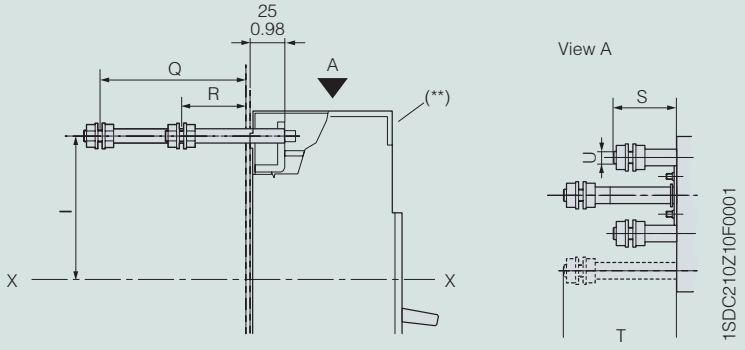
Overall dimensions tmax t3

Terminals

Extended front spreaded



Threaded rear



(**) low terminal covers included in supply

	D	I	L	N	O	P	Q	R	S	T	U	A1	B1	C1	D1	E1	F1	G1	H1	I1	L1
Ts3	87.25	73.75	Φ16	20	Φ8.5	100	81.5	36.5	55	100	M 12	130	165	50	45	30	155	...	Φ8.5	12.5	45
	3.44	2.90	Φ0.63	0.79	Φ0.33	3.94	3.21	1.44	2.17	3.94		5.12	6.50	1.97	1.77	1.18	6.10	...	Φ0.33	0.49	1.77

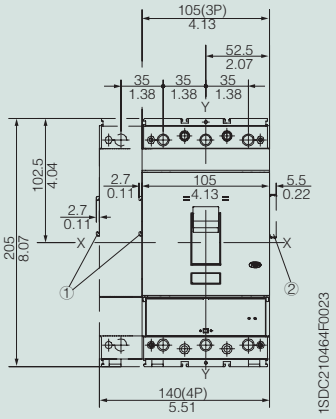
Overall dimensions tmax t4

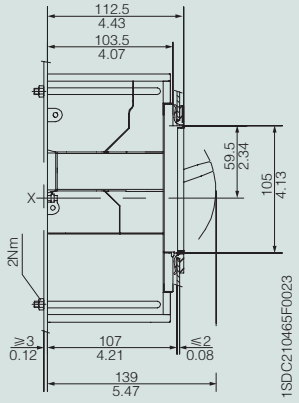
Fixed circuit breaker

Caption

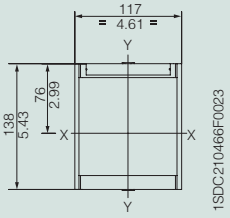
① Overall dimensions with cabledaccessories mounted (SOR-C, UVR-C, RC222-223)
② Overall dimensions with cabled auxiliary contacts mounted (only 3Q 1SY)

Fixing on sheet

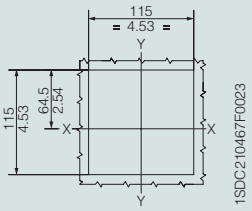




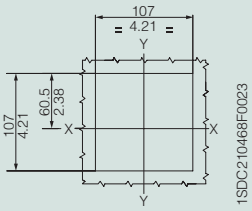
Flange for compartment door



Drilling templates of the compartment door



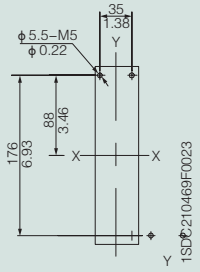
3–4 POLES
With flange



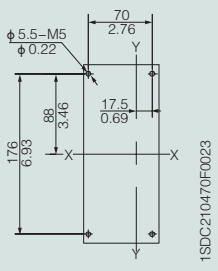
3–4 POLES
Without flange

Drilling templates for support sheet

For front terminals

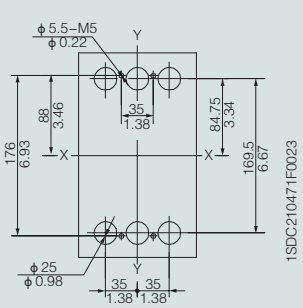


3 POLES

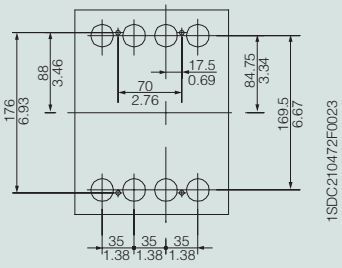


4 POLES

For rear terminals



3 POLES



4 POLES

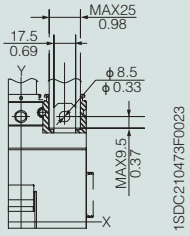
Overall dimensions tmax t4

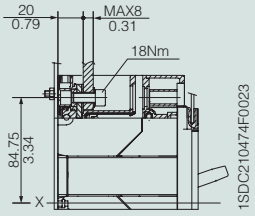
Terminals

Caption

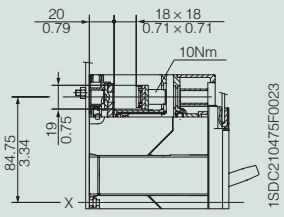
① Front terminals for cable connection 2x150 mm2
② Front terminals for multicable connection
③ High terminal covers with degree of protection IP40

Front – F

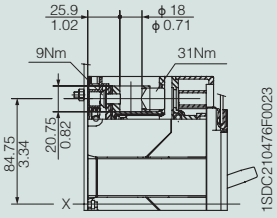


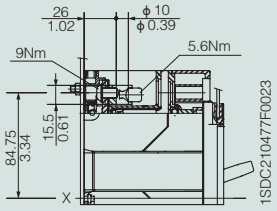


Front for copper cables – FC Cu

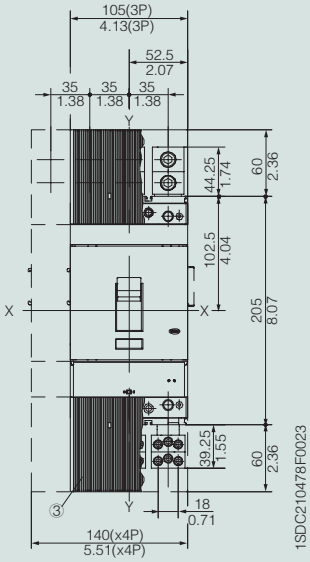


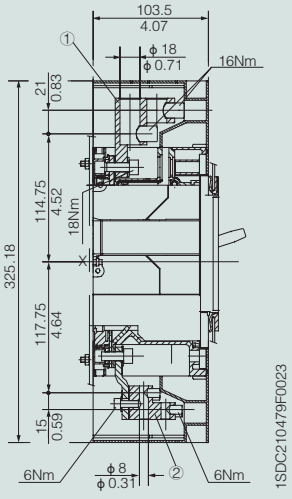
Front for copper/aluminium cables – FC CuAl





Front multicable – MC

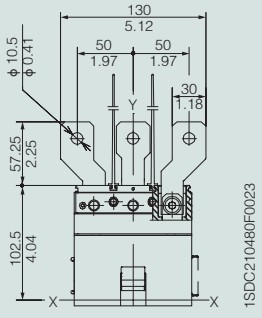


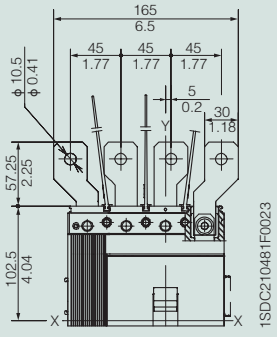


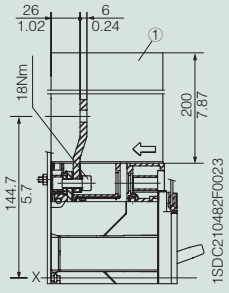
Caption

① Insulating barriers between phases (compulsory)

Front extended spread – ES







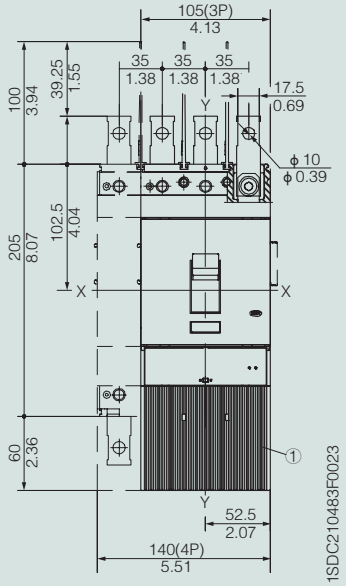
Overall dimensions tmax t4

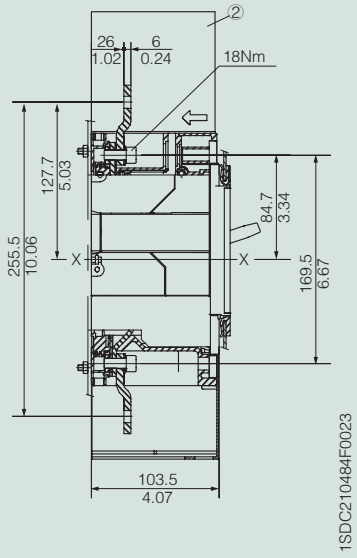
Terminals

Caption

① High terminal covers with degree of protection IP40
② Insulating barriers between phases (compulsory without1)

Front extended – EF

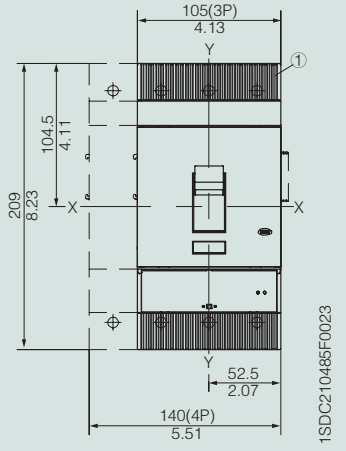


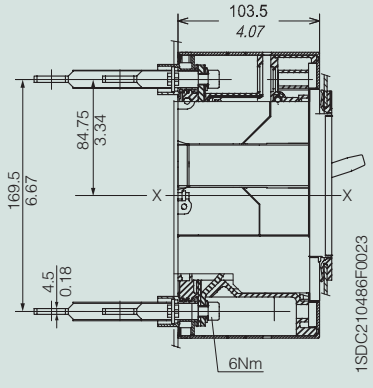


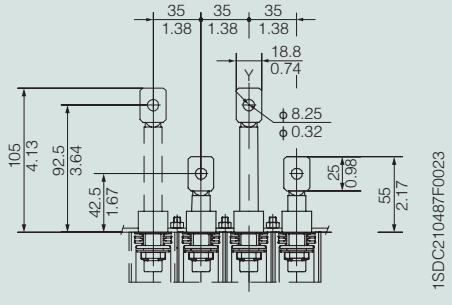
Rear – R

Caption

① Low terminal covers with degree of protection IP40







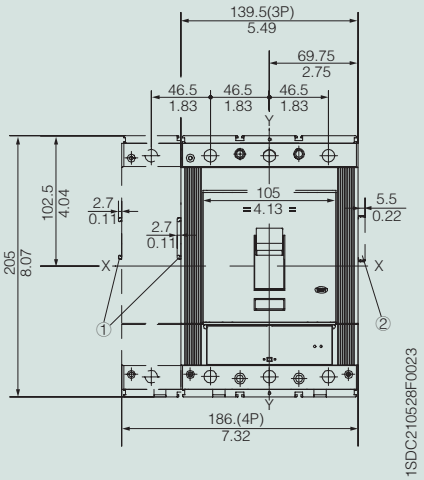
Overall dimensions tmax t5 (400 A)

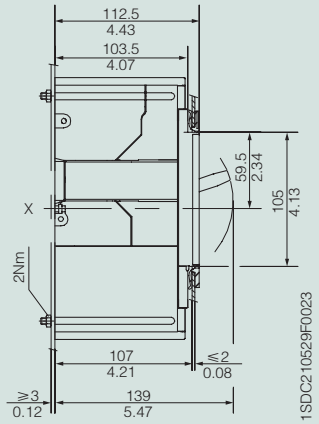
Fixed circuit breaker

Caption

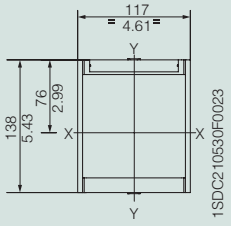
① Overall dimensions with cabledaccessories mounted
② (SOR-C, UVR-C, RC222) Overall dimensions with cabled auxiliary contacts mounted (only 3Q 1SY)

Fixing on sheet

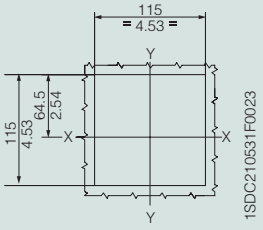




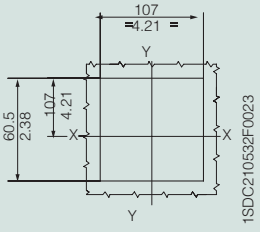
Flange for compartment door



Drilling templates of the compartment door



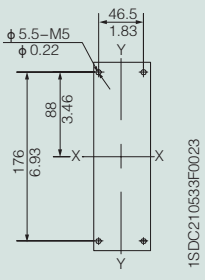
With flange (3–4POLES)



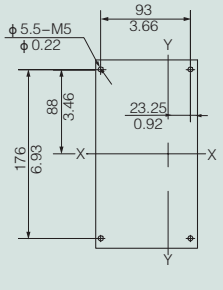
Without flange (3–4POLES)

Drilling templates for support sheet

For front terminals

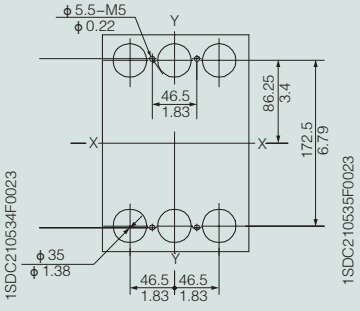


3 POLES

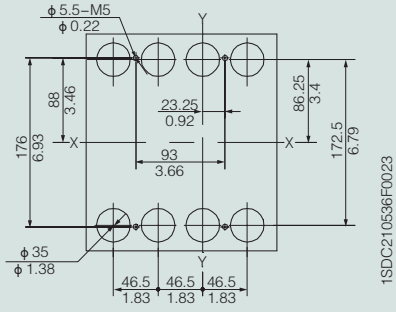


4 POLES

For rear terminals



3 POLES

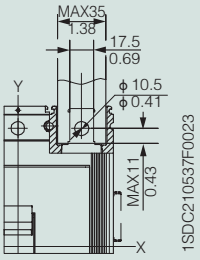


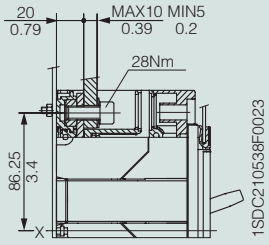
4 POLES

Overall dimensions tmax t5 (400 A)

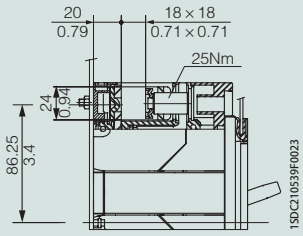
Terminals

Front – F





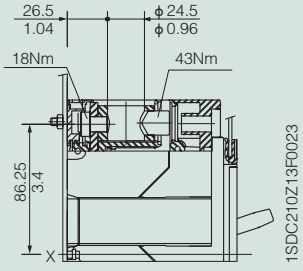
Front for copper cables – FC Cu



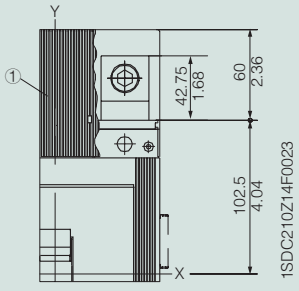
Caption

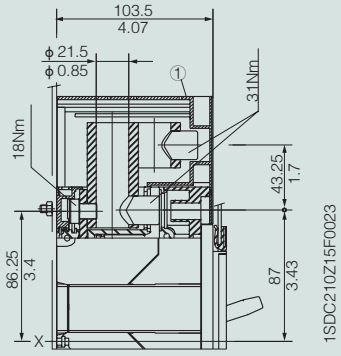
① High terminal covers with degree of protection IP40

Front for copper/aluminium cables Cu/Al 300 mm² FC CuAl



Front for copper/aluminium cables Cu/Al 2x240 mm² – FC CuAl





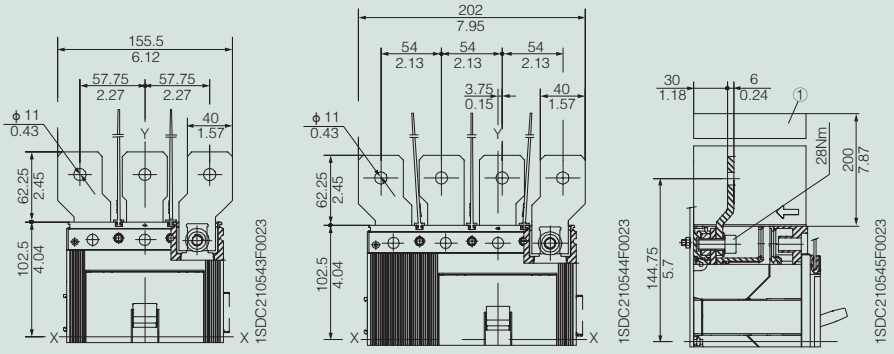
Overall dimensions tmax t5 (400 A)

Terminals

Caption

① Insulating barriers between phases (compulsory)

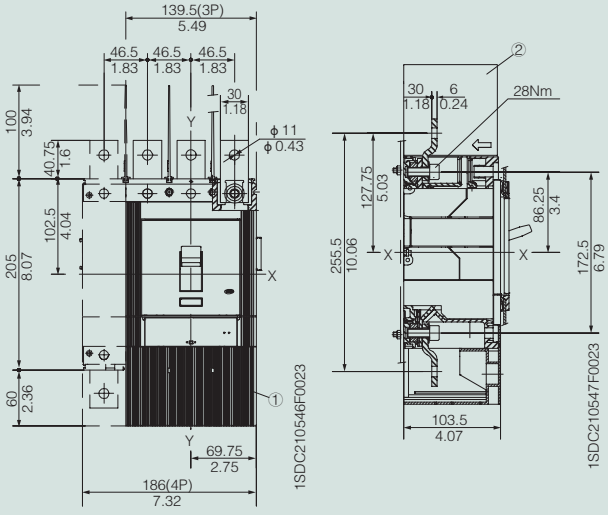
Front extended spread – ES



Caption

① High terminal covers with degree of protection IP40
② Insulating barriers between phases (compulsory without1)

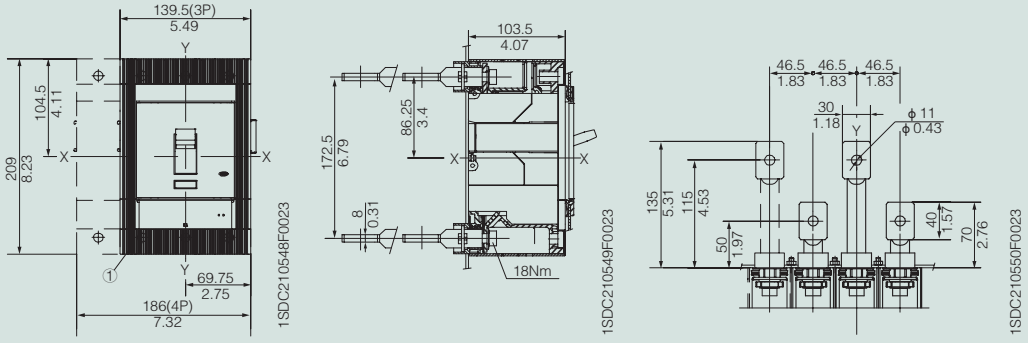
Front extended – EF



Rear – R

Caption

① Low terminal covers with degree of protection IP40



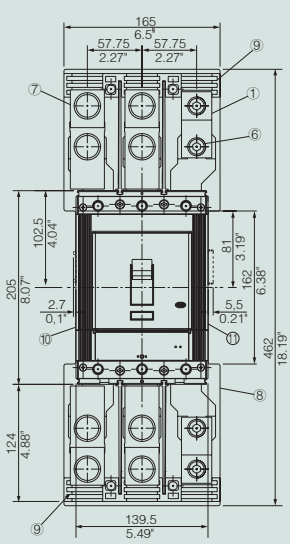
Overall dimensions tmax t5 (400 A)

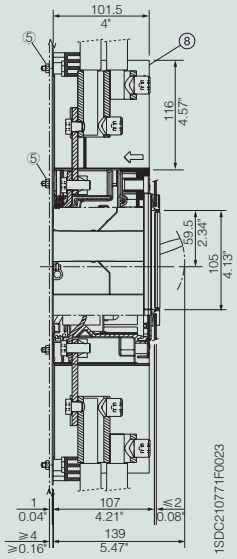
Fixed circuit breaker

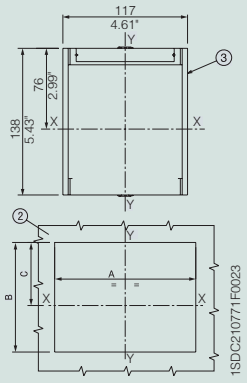
Caption

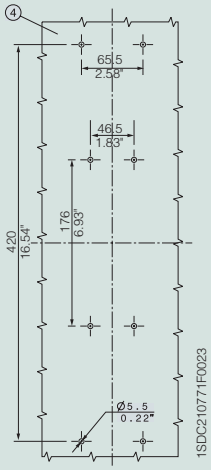
① Front terminals for 2x240 mm² cable connection
② Compartment door sheet steel drilling
③ Flange for the compartmentdoor
④ Fixing on sheet steel
⑤ Tightening torque 2 Nm
⑥ Tightening torque 31 Nm
⑦ Terminal cover
⑧ Insultating barrier + insulating plate
⑨ Terminals support
⑩ Spacing when equipped with SOR-C, UVR-C, RC221-222
⑪ Spacing when equipped with AUX-C (3Q 1SY only)

Fixing on sheet









	With flange	Without flange
A	115	107
	4.53	4.21
B	115	107
	4.53	4.21
C	64.5	60.5
	2.54	2.38

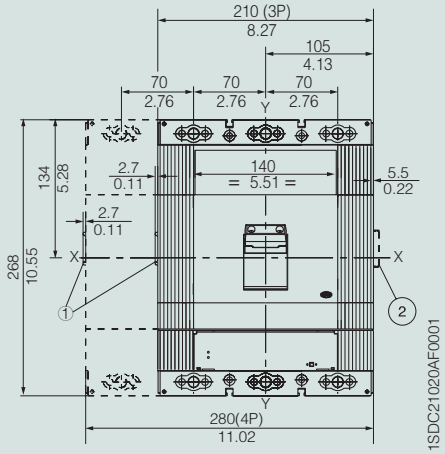
Overall dimensions tmax t6

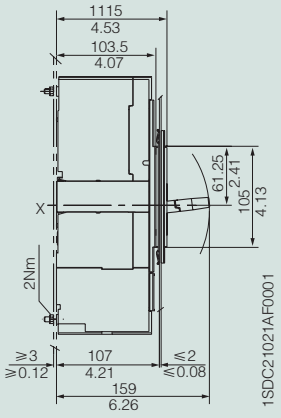
Fixed circuit breaker

Caption

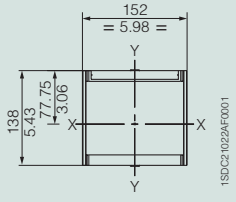
① Overall dimensions with cabledaccessories mounted
② (SOR-C, UVR-C)
Overall dimensions with cabled auxiliary contacts mounted (only 3Q 1SY)

Fixing on sheet

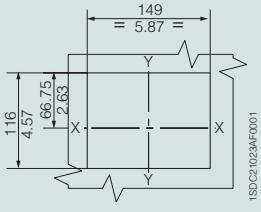




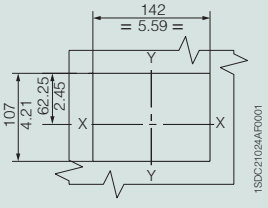
Flange for the compartment door



Drilling templates of the compartment door



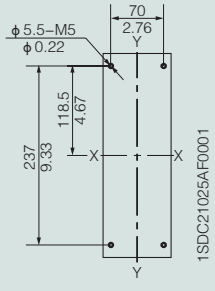
With flange 3–4 POLES



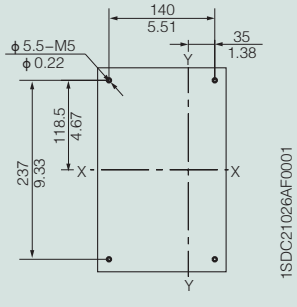
Without flange 3–4 POLES

Drilling templates for support sheet

For front terminals F, EF, ES, FC Cu, FC CuAl



3 POLES

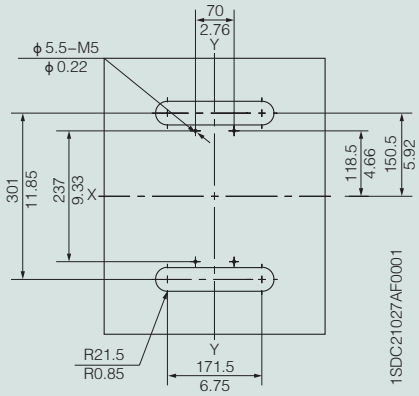


4 POLES

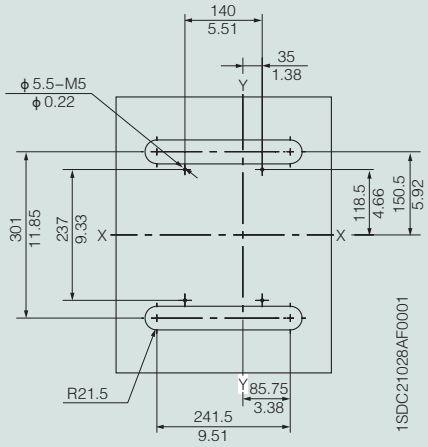
Overall dimensions tmax t6

Fixed circuit breaker

Drilling templates for support sheet
For rear terminals for Cu/Al cables

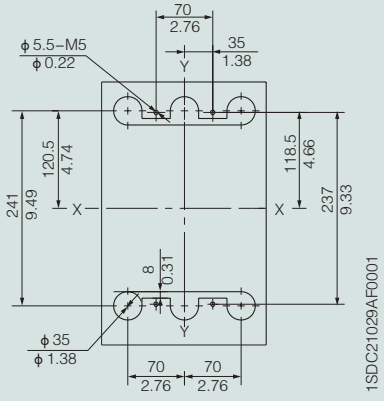


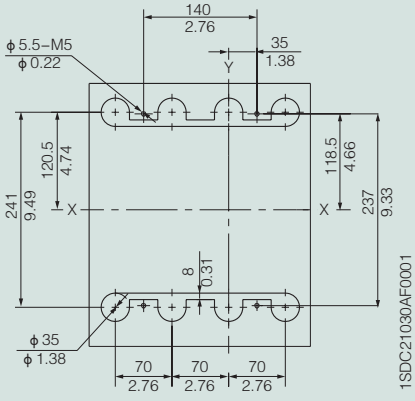
3 POLES



4 POLES

For rear terminals – R



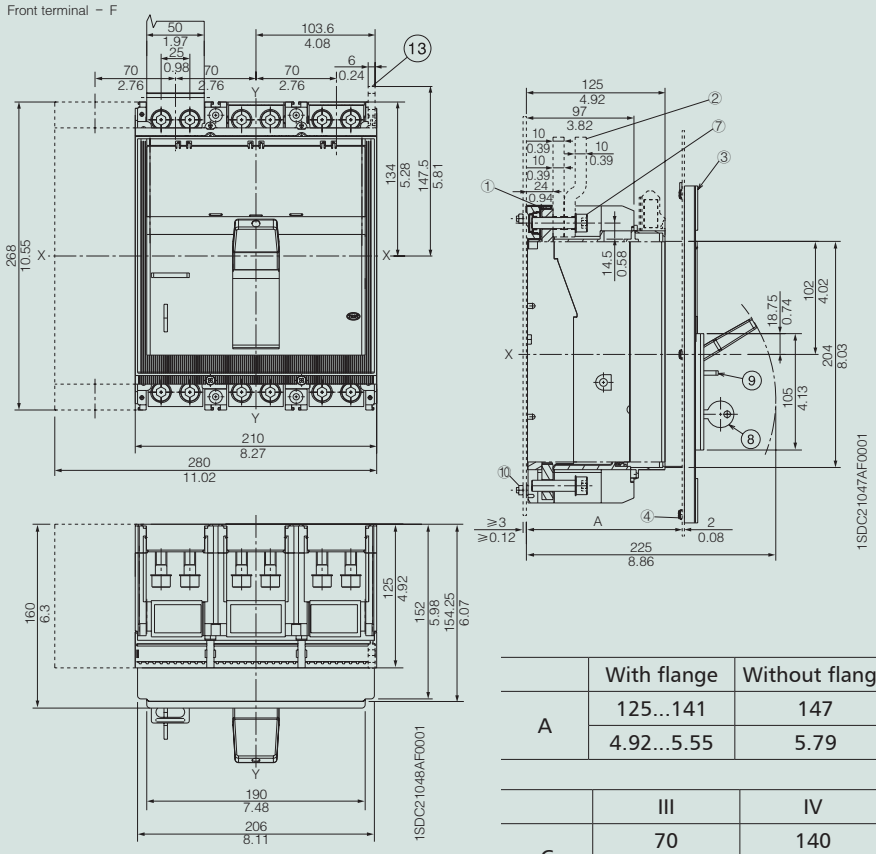


Overall dimensions tmax t7

Fixed circuit breaker

Caption

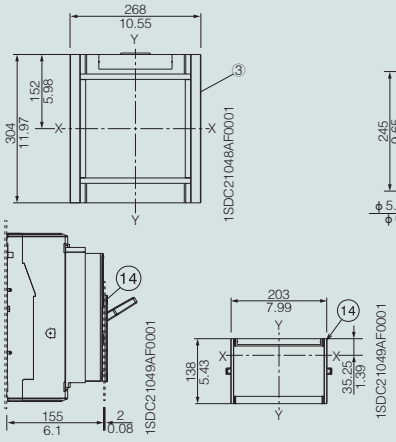
① Front terminals for flat connection
② Busbars
③ Flange for the compartment door
④ Flange fixing screws
⑥ Drilling template for fixing onto support sheet
⑦ Tightening torque: 18 Nm
⑧ Key lock (optional)
⑨ Padlock (optional)
⑩ Tightening torque: 2.5 Nm
⑪ Sheet drilling for compartment door with flange
⑫ Sheet drilling for compartment door for front206 x 204
⑬ Terminal for auxiliary contacts
⑭ Reduce flange for the compartment door (optional)
⑮ Sheet drilling for compartment door with reducedflange
⑯ Sheet drilling for compartment door for front190 x 105



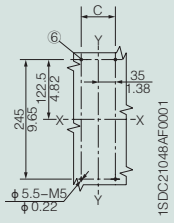
	With flange	Without flange
A	125...141	147
	4.92...5.55	5.79

	III	IV
C	70	140
	2.76	5.51

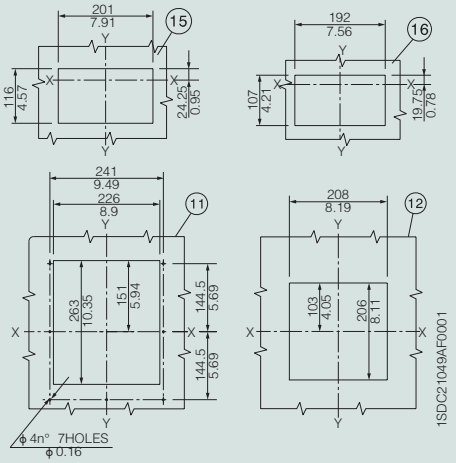
Flange for the compartment door (supplied as standard)



Drilling templates for support sheet



Drilling templates of the compartment door

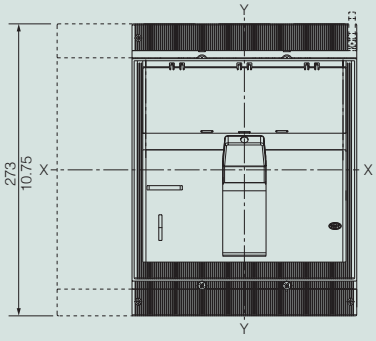


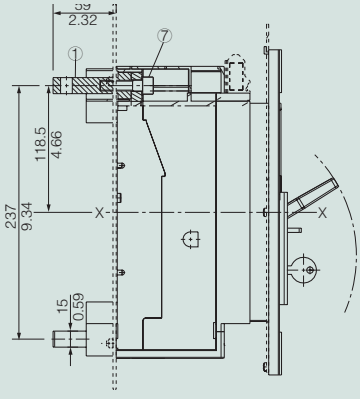
Overall dimensions tmax t7

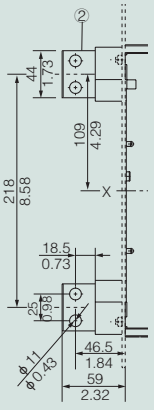
Terminals

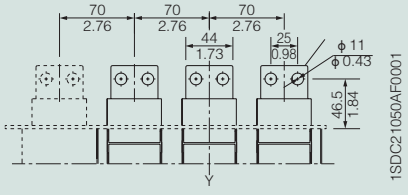
Caption

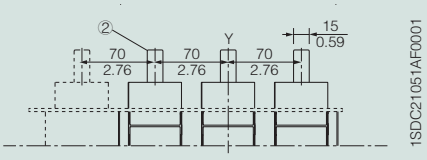
① Rear horizontal terminals
② Rear vertical terminals
⑥ Support sheet drilling template
⑦ Tightening torque: 20 Nm



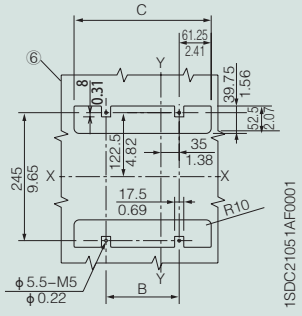








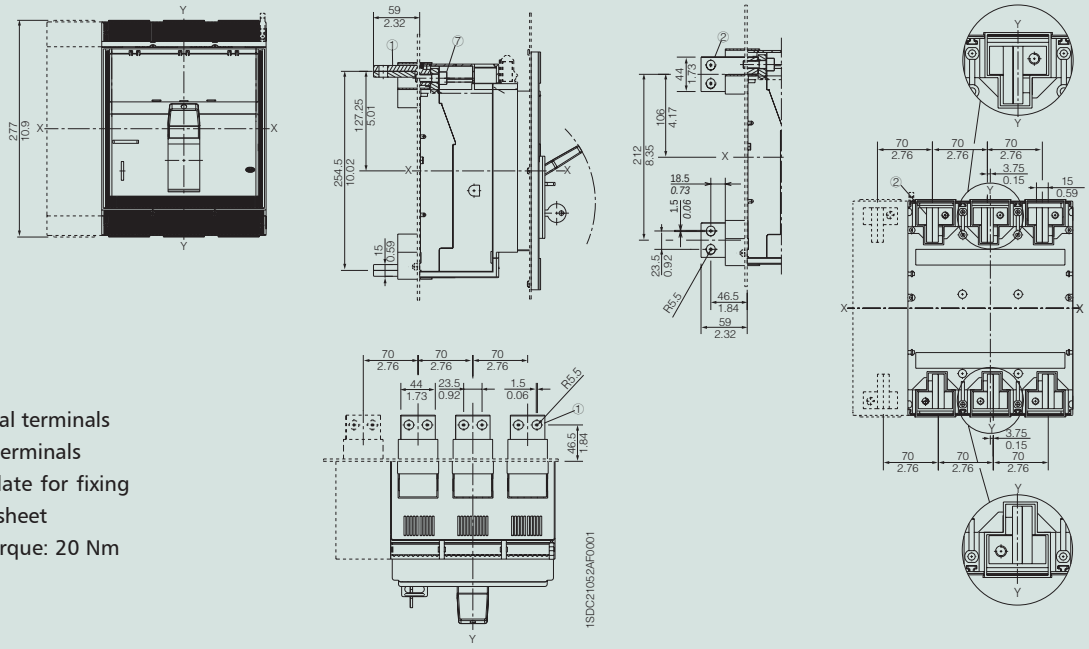
Drilling templates for support sheet



	III	IV
B	70	140
	2.76	5.51
C	192.5	262.5
	7.58	10.33

Overall dimensions tmax t7

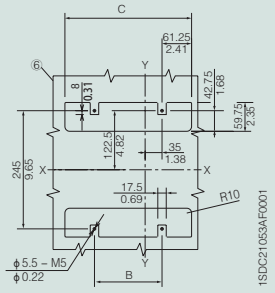
Terminals



Caption

① Rear horizontal terminals
② Rear vertical terminals
⑥ Drilling template for fixing ontosupport sheet
⑦ Tightening torque: 20 Nm

Drilling templates for support sheet



	III	IV
B	70	140
	2.76	5.51
C	192.5	262.5
	7.58	10.33

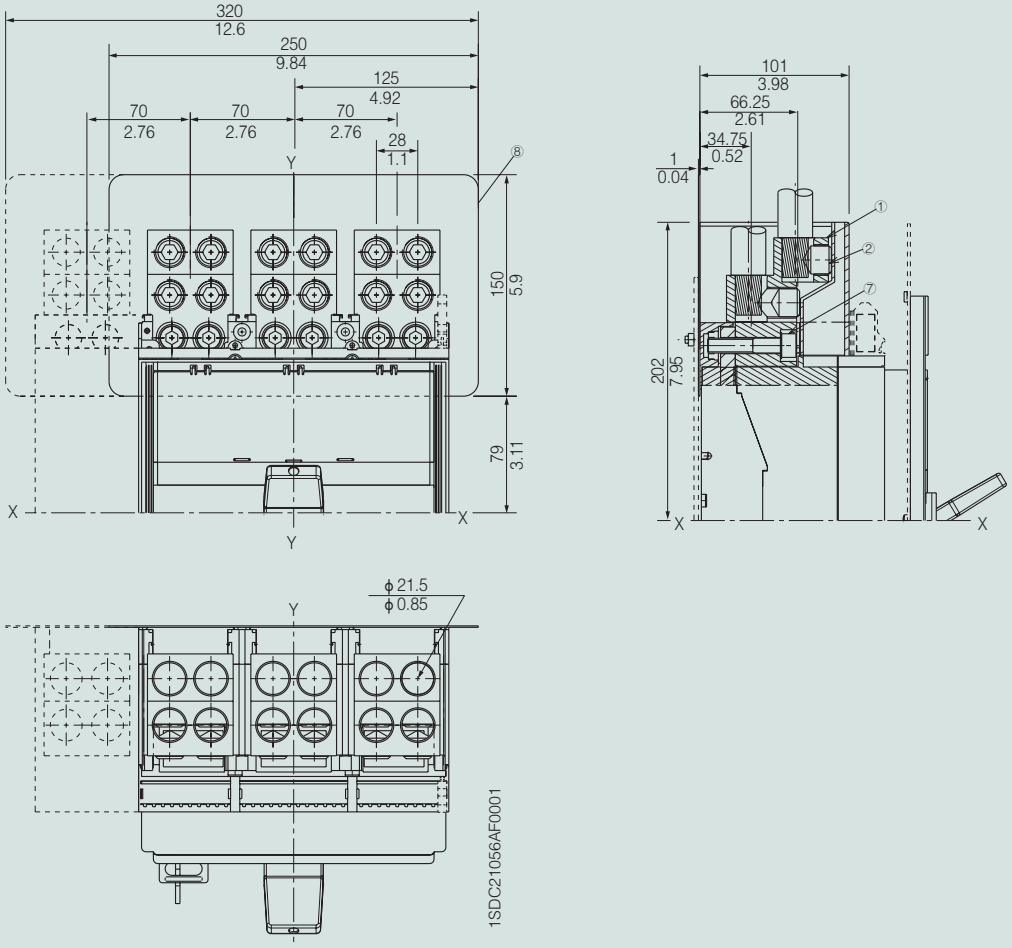
Overall dimensions tmax t7

Terminals

Caption

① Front terminals for cables
② FC CuAl
⑦ Tightening torque: 43 Nm
Tightening torque: 18 Nm
⑧ Protection plate

Front FC CuAl cable terminal – 4x240 mm²

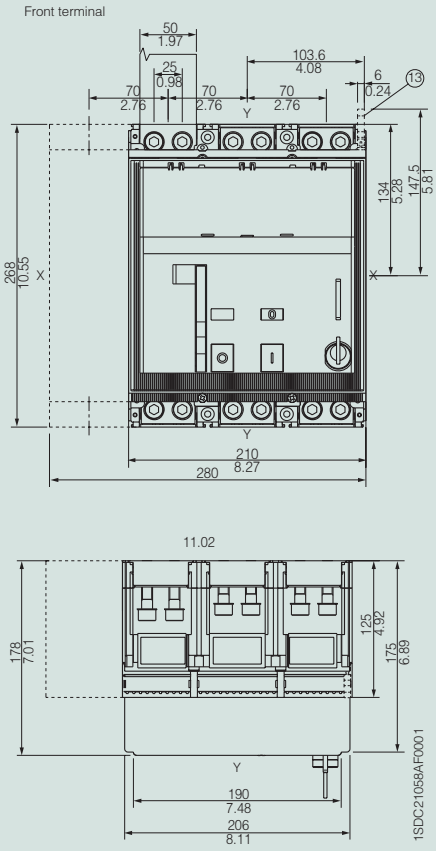


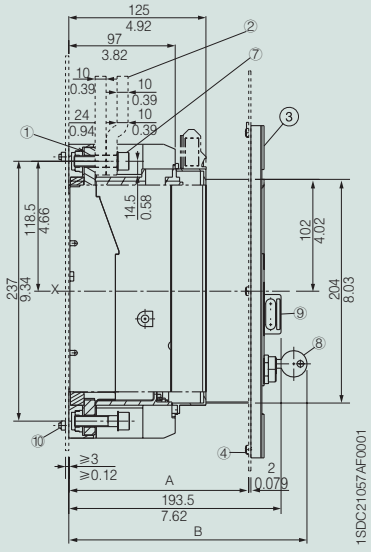
Overall dimensions tmax t7

Fixed circuit breake

Caption

① Front terminal for flat connection
② Busbars
③ Flange for the compartment door
④ Flange fi xing screws
⑥ Drilling template for fixing onto support sheet
⑦ Tightening torque: 18 Nm
⑧ Key lock (optional)
⑨ Padlock (optional)
⑩ Tightening torque: 2.5 Nm
⑪ Compartment door with flange sheet drilling
⑫ Compartment door without flange sheet drilling
⑬ Terminal for auxiliary contacts



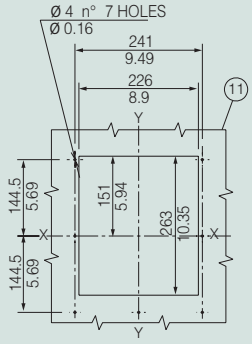


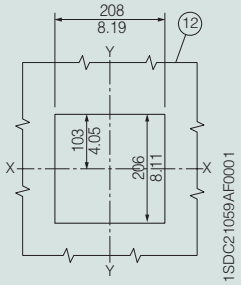
	With flange	Without flange
A	125...184	170
	4.92...7.24	6.7

	III	IV
C	70	140
	2.76	5.51

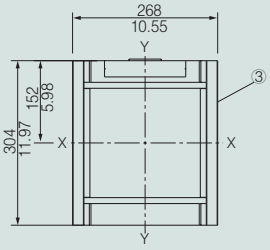
	Standard	Ronis	Profalux	Kirk	Castell
B	208	216	224	no	no
	8.19	8.5	8.82	no	no

Drilling templates of the compartment door

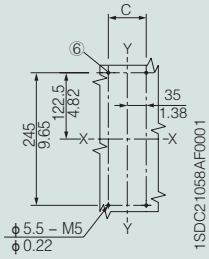




Flange for the compartment door (supplied as standard)



Drilling templates for support sheet



ELECTRIC Suntree XinChi Electric

Most reasonable contact terminal system design

Whole testing process in factory

High breaking capacity in smaller space

Keyword:3P(3P+N),4Pole, Adjustable thermal type, Fixed thermal type, Adjustable fixed magnetic type, Fixed magnetic leakage type, Electronic trip, Similar Westinghouse

SM5 Series moulded case circuit breaker

Application

SM5 series circuit breaker including 7 basic frames, frame current from 100 to 1600A. each frame has up to 415V 100kA short circuit breaker capacity multiple choice, more flexibility in design, and save space as well.
SM5 series circuit breaker can be used in DC situation as well. 630A frame 3p circuit breaker concatenation used in DC600V breaking capacity can reach 40kA.

SM5

LW630

C type

Frame current(A)			100		160	225			225			250		
Model			GWF		FWF	FW	HFW	FWC	FWF	HFWF	FWCF	JW	HJW	JWC
Breaking capacity(kA ms) AC 50/60Hz														
IEC 60974-2	220-240VAC	Icu	18	65	40	85	100	200	85	100	200	85	100	200
		Ics	9	33	40	85	100	150	85	100	150	85	100	150
	380-415VAC	Icu	-	25	-	40	70	100	40	70	100	40	70	100
		Ics	-	13	-	40	70	75	40	70	75	40	70	75
	660-690VAC	Icu	-	-	-	12	14	18	12	14	18	14	18	22
		Ics	-	-	-	6	7	9	6	7	9	7	9	11
	250VDC	Icu	-	10	-	10	20	20	10	20	20	10	20	20
		Ics	-	5	-	5	10	10	5	10	10	5	10	10
NEMA	240VAC		18	65	-	65	100	200	65	100	200	65	100	200
	480VAC		-	22	25	25	65	100	25	65	100	35	65	100
	600VAC		-	-	-	18	25	35	18	25	35	18	25	35
Number of poles			1	2,3	1	2,3,4						2,3,4		
Rated current			16-100A		16-160A	16-225A			16-25A			125-250A		
Trip unit	Interchangeable type											●		
	Fixed type		●		●	●	●	●	●	●	●	●		
Thermal-magnetic	Fixed thermal type		●		●				●	●	●	●		
	Adjustable termal type				Fixed	●	●	●				●		
	Magnetic type		Fixed		Fixed	Fixed, Adjustable			Fixed			Adjustable		
Rms solid	LS		-		-							-		
	LSI		-		-							-		
	LSG		-		-							-		
	LSIG		-		-							-		
Dimensions (mm)			H	W	D	H	W		D			H	W	D
	1P		123.8	254.4	66.7	152.4	35		86			-	-	-
	2P		123.8	50.8	66.7	152.4	70		86			-	-	-
	3P		123.8	76.2	66.7	152.4	105		86			177.8	105	103
	4P					152.4	140		86			177.8	140	103
Weight(kg)			IP0.4	2P0.7	3P1							2P5.2	3P5.2	4P7.0

SM5 Series moulded case circuit breaker

C type

Frame current(A)			400			630			80	800,1250			1600
Model			KW	HKW	KWC	LW	HLW	LWC	LW	NW	HNW	NWC	NW
Breaking capacity(kA ms) AC 50/60Hz													
IEC 60974-2	220-240VAC	Icu	85	100	200	85	100	200	65	85	100	200	85
		Ics	85	100	150	85	100	150	33	85	100	100	85
	380-415VAC	Icu	45	70	100	45	70	100	50	50	70	100	50
		Ics	45	70	75	45	70	75	25	50	50	50	50
	660-690VAC	Icu	20	25	35	20	25	35	20	20	25	35	20
		Ics	10	13	18	10	13	18	10	10	13	18	10
	250VDC	Icu	10	20	20	20	20	20	20	-	-	-	-
		Ics	5	10	10	10	10	10	10	-	-	-	-
NEMA	240VAC		65	100	200	65	100	200	65	65	100	200	100
	480VAC		35	65	100	35	65	100	35	50	65	100	65
	600VAC		25	35	50	25	35	50	25	25	35	50	35
Number of poles			2,3,4			2,3,4			3	2,3,4			3
Rated current			125-400A			315-630A			700-800A	400-125A			1600A
Trip unit	Interchangeable type		●			●			-				
	Fixed type		●			●			●	●			
Thermal-magnetic	Fixed thermal type		●			●			●	●			
	Adjustable termal type		●			●			-	-			
	Magnetic type		Adjustable			Adjustable			Adjustable	-			
Rms solid	LS		Standard			Standard			Standard	Standard			
	LSI		Selectable			Selectable			Selectable	Selectable			
	LSG		Selectable			Selectable			Selectable	Selectable			
	LSIG		Selectable			Selectable			Selectable	Selectable			
Dimensions (mm)			H	W	D	H	W		D	H	W		D
	1P		-	-	-	-	-		-	-	-		-
	2P		-	-	-	-	-		-	-	-		-
	3P		258	140	104	630A=273	210		104	106	210		104
	4P		258	183	104	800A=406	280		104	493	280		104
Weight(kg)			3P 6.1 4P 7.1			3P:630A=9.4/800A=11.3;630A=11.1/800A=14.1				3P:21.3 4P28.3			

SM5 Series moulded case circuit breaker

3VF type

Frame current(A)			125			225			400			630			800
Model			3VF2			3VF3			3VF5			3VF6			3VF7
Breaking capacity(kA ms) AC 50/60Hz															
IEC 60974-2	220-240VAC	Icu	65			85			85			85			65
		Ics	33			85			85			85			33
	380-415VAC	Icu	25			40			45			45			50
		Ics	13			40			45			45			25
	660-690VAC	Icu	-			12			20			20			20
		Ics	-			6			10			10			10
	250VDC	Icu	10			10			10			20			20
		Ics	5			5			5			10			10
NEMA	240VAC		65			65			65			65			65
	480VAC		22			25			35			35			35
	600VAC		-			18			25			25			25
Number of poles			1,2,3			2,3,4			2,3,4			2,3,4			3
Rated current			16-125A			16-225A			125-400A			315-630A			700-80A
Trip unit	Interchangeable type								●			●			-
	Fixed type		●			●			●			●			●
Thermal-magnetic	Fixed thermal type		●						●			●			●
	Adjustable termal type		Fixed			●			●			●			-
	Magnetic type		Fixed			Fixed,Adjustable			Adjustable			Adjustable			Adjustable
Rms solid	LS		-			-			Standard			Standard			Standard
	LSI		-			-			Selectable			Selectable			Selectable
	LSG		-			-			Selectable			Selectable			Selectable
	LSIG		-			-			Selectable			Selectable			Selectable
Dimensions (mm)			H	W	D	H	W	D	H	W	D	H	W		D
	1P		123.8	254.4	66.7	152.4	35	86	-	-	-	-	-		-
	2P		123.8	50.8	66.7	152.4	70	86	-	-	-	-	-		-
	3P		123.8	76.2	66.7	152.4	105	86	258	140	104	630A=273	210		104
	4P					152.4	140	86	258	183	104	800A=406	280		104
Weight(kg)			IP0.4	2P0.7	3P1	1P0.7 2P1.8 3P2.4 4P3.1			3P6.1 4P7.4			3P:630A=9.4/800A=11.3			

SM5 Series moulded case circuit breaker

H type

Frame current(A)			125			225			400			630			800
Model			H126h			H226h			H400h			H640h			H800h
Breaking capacity(kA ms) AC 50/60Hz															
IEC 60974-2	220-240VAC	Icu	65			85			85			85			65
		Ics	33			85			85			85			33
	380-415VAC	Icu	25			40			45			45			50
		Ics	13			40			45			45			25
	660-690VAC	Icu	-			12			20			20			20
		Ics	-			6			10			10			10
	250VDC	Icu	10			10			10			20			20
		Ics	5			5			5			10			10
NEMA	240VAC		65			65			65			65			65
	480VAC		22			25			35			35			35
	600VAC		-			18			25			25			25
Number of poles			1,2,3			2,3,4			2,3,4			2,3,4			3
Rated current			16-125A			16-225A			125-400A			315-630A			700-80A
Trip unit	Interchangeable type								●			●			-
	Fixed type		●			●			●			●			●
Thermal-magnetic	Fixed thermal type		●						●			●			●
	Adjustable termal type		Fixed			●			●			●			-
	Magnetic type		Fixed			Fixed,Adjustable			Adjustable			Adjustable			Adjustable
Rms solid	LS		-			-			Standard			Standard			Standard
	LSI		-			-			Selectable			Selectable			Selectable
	LSG		-			-			Selectable			Selectable			Selectable
	LSIG		-			-			Selectable			Selectable			Selectable
Dimensions (mm)			H	W	D	H	W	D	H	W	D	H	W		D
	1P		123.8	254.4	66.7	152.4	35	86	-	-	-	-	-		-
	2P		123.8	50.8	66.7	152.4	70	86	-	-	-	-	-		-
	3P		123.8	76.2	66.7	152.4	105	86	258	140	104	630A=273	210		104
	4P					152.4	140	86	258	183	104	800A=406	280		104
Weight(kg)			IP0.4	2P0.7	3P1	1P0.7 2P1.8 3P2.4 4P3.1			3P6.1 4P7.4			3P:630A=9.4/800A=11.3			

SM5 Series moulded case circuit breaker

S type

Frame current(A)			125			225			400			630			800
Model			GWF125S			FWF225S			KW400S			LW630S			LW800S
Breaking capacity(kA ms) AC 50/60Hz															
IEC 60974-2	220-240VAC	Icu	65			85			85			85			65
		Ics	33			85			85			85			33
	380-415VAC	Icu	25			40			45			45			50
		Ics	13			40			45			45			25
	660-690VAC	Icu	-			12			20			20			20
		Ics	-			6			10			10			10
	250VDC	Icu	10			10			10			20			20
		Ics	5			5			5			10			10
NEMA	240VAC		65			65			65			65			65
	480VAC		22			25			35			35			35
	600VAC		-			18			25			25			25
Number of poles			1,2,3			2,3,4			2,3,4			2,3,4			3
Rated current			16-125A			16-225A			125-400A			315-630A			700-80A
Trip unit	Interchangeable type								●			●			-
	Fixed type		●			●			●			●			●
Thermal-magnetic	Fixed thermal type		●						●			●			●
	Adjustable termal type		Fixed			●			●			●			-
	Magnetic type		Fixed			Fixed,Adjustable			Adjustable			Adjustable			Adjustable
Rms solid	LS		-			-			Standard			Standard			Standard
	LSI		-			-			Selectable			Selectable			Selectable
	LSG		-			-			Selectable			Selectable			Selectable
	LSIG		-			-			Selectable			Selectable			Selectable
Dimensions (mm)			H	W	D	H	W	D	H	W	D	H	W		D
	1P		123.8	254.4	66.7	152.4	35	86	-	-	-	-	-		-
	2P		123.8	50.8	66.7	152.4	70	86	-	-	-	-	-		-
	3P		123.8	76.2	66.7	152.4	105	86	258	140	104	630A=273	210		104
	4P					152.4	140	86	258	183	104	800A=406	280		104
Weight(kg)			IP0.4	2P0.7	3P1	1P0.7 2P1.8 3P2.4 4P3.1			3P6.1 4P7.4			3P:630A=9.4/800A=11.3			

SM5 Series moulded case circuit breaker

E type

Frame current(A)			225			400			630		800	
Model			E^2FM			E^2KM			E^2LM		E^2LM	
Breaking capacity(kA ms) AC 50/60Hz												
IEC 60974-2	220-240VAC	Icu	85			85			85		65	
		Ics	85			85			85		33	
	380-415VAC	Icu	40			45			45		50	
		Ics	40			45			45		25	
	660-690VAC	Icu	12			20			20		20	
		Ics	6			10			10		10	
	250VDC	Icu	10			10			20		20	
		Ics	5			5			10		10	
NEMA	240VAC		65			65			65		65	
	480VAC		25			35			35		35	
	600VAC		18			25			25		25	
Number of poles			2,3,4			2,3,4			2,3,4		3	
Rated current			16-125A			125-400A			315-630A		700-80A	
Trip unit	Interchangeable type					●			●		-	
	Fixed type		●			●			●		●	
Thermal-magnetic	Fixed thermal type					●			●		●	
	Adjustable termal type		●			●			●		-	
	Magnetic type		Fixed			Adjustable			Adjustable		Adjustable	
Rms solid	LS		-			Standard			Standard		Standard	
	LSI		-			Selectable			Selectable		Selectable	
	LSG		-			Selectable			Selectable		Selectable	
	LSIG		-			Selectable			Selectable		Selectable	
Dimensions (mm)			H	W	D	H	W	D	H	W		D
	1P		152.4	35	86	-	-	-	-	-		-
	2P		152.4	70	86	-	-	-	-	-		-
	3P		152.4	105	86	258	140	104		210		104
	4P		152.4	140	86	258	183	104	406	280		104
Weight(kg)			IP0.7 2P1.8 3P2.4 4P3.1			3P6.1 4P7.4			3P:11.3			

SM5 Series moulded case circuit breaker

G type

Frame current(A)			125,160							250						400,630					
Model			B	E		S	H		C	E	S	H	C	U	X	E	S	H	C	U	X
Breaking capacity(kA ms) AC 50/60Hz																					
IEC 60974-2	220-240VAC	Icu	25	25	25	85	100	100	200	65	85	100	200	200	200	65	85	100	200	200	200
		Ics	25	25	25	43	50	50	200	65	85	100	200	200	200	65	85	100	200	200	200
	380-415VAC	Icu		18	18	-	-	70	100	25	40	70	100	150	200	35	50	70	100	150	200
		Ics	-	18	18	-	-	35	100	25	40	70	100	150	200	35	50	70	100	150	200
	660-690VAC	Icu	-			-	-	6	8	12	12	14	16	18	18	12	20	25	30	35	35
		Ics	-			-	-	3	6	6	6	7	12	14	14	6	10	13	15	18	18
	250VDC	Icu	10	10	10	35	42	42	42	10	22	22	42	50	50	22	22	42	42	50	50
		Ics	10	10	10	35	42	42	42	10	22	22	42	50	50	22	22	42	42	50	50
NEMA	240VAC		25	25	25	85	100	100	200	200	85	100	200	200	200	65	85	100	200	200	200
	480VAC		-	18	18			65	100	100	35	65	100	150	200	35	50	65	100	150	200
	600VAC		-					25	35	35	18	25	35	50	50	18	25	35	50	65	65
Number of poles			1	2,3,4	2,3,4	1	1	2,3,4	3,4	2,3,4	2,3,4	2,3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4	3,4
Rated current			125,160A							250A						400,630A					
Trip unit	Interchangeable type		-							-						-					
	Fixed type		-							-						-					
Thermal-magnetic	Fixed thermal type		-							-						-					
	Adjustable termal type		-							-						-					
	Magnetic type		Fixed							Adjustable						Adjustable					
Rms solid	LS		-							-						-					
	LSI		-							-						-					
	LSG		-							-						-					
	LSIG		-							-						-					
Dimensions (mm)			H		W			D		H		W			D	H		W			D
	1P		139.7		25.4			76													
	2P		139.7		50.8			76		177.8		105			87.4						
	3P		139.7		76.2			76		177.8		105			87.4	258		140			104
	4P		139.7		101.6			76		177.8		135.6			87.4	258		183			104
Weight(kg)			1P0.4,2P0.71,3P1.04,4P1.29							2P5.13,3P2.30,4P3.07						3P5.61,4P7.4					

SM5 Series moulded case circuit breaker

HN type

Frame current(A)			125,160			250			400,630		
Model			HN125h,HN160h			HN250h			HN400h,HN630h		
Breaking capacity(kA ms) AC 50/60Hz											
IEC 60974-2	220-240VAC	Icu	25			65			65		
		Ics	25			65			65		
	380-415VAC	Icu	18			25			35		
		Ics	18			25			35		
	660-690VAC	Icu				12			12		
		Ics				6			6		
	250VDC	Icu	10			10			22		
		Ics	10			10			22		
NEMA	240VAC		25			200			65		
	480VAC		18			100			35		
	600VAC					35			18		
Number of poles			2,3,4			2,3,4			3,4		
Rated current			125,160A			250A			400,630A		
Trip unit	Interchangeable type		-			-			-		
	Fixed type		-			-			-		
Thermal-magnetic	Fixed thermal type		-			-			-		
	Adjustable termal type		-			-			-		
	Magnetic type		Fixed			Adjustable			Adjustable		
Rms solid	LS		-			-			-		
	LSI		-			-			-		
	LSG		-			-			-		
	LSIG		-			-			-		
Dimensions (mm)			H	W	D	H	W	D	H	W	D
	1P		139.7	25.4	76						
	2P		139.7	50.8	76	177.8	105	87.4			
	3P		139.7	76.2	76	177.8	105	87.4	258	140	104
	4P		139.7	101.6	76	177.8	135.6	87.4	258	183	104
Weight(kg)			1P0.4,2P0.71,3P1.04,4P1.29			2P5.13,3P2.30,4P3.07			3P5.61,4P7.4		

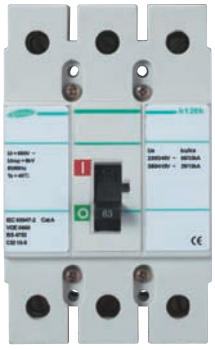
SM5 Series moulded case circuit breaker

M type

Frame current(A)			125,160			250			400,630		
Model			MES			MJS			MLS		
Breaking capacity(kA ms) AC 50/60Hz											
IEC 60974-2	220-240VAC	Icu	85			85			85		
		Ics	43			85			85		
	380-415VAC	Icu	40			40			50		
		Ics	30			40			50		
	660-690VAC	Icu	3			12			20		
		Ics	3			6			10		
	250VDC	Icu	10			22			22		
		Ics	10			22			22		
NEMA	240VAC		85			85			85		
	480VAC		35			35			50		
	600VAC		22			18			25		
Number of poles			1,2,3,4			2,3,4			3,4		
Rated current			15-160A			20-250A			100-630A		
Trip unit	Interchangeable type		-			-			-		
	Fixed type		-			-			-		
Thermal-magnetic	Fixed thermal type		-			-			-		
	Adjustable termal type		-			-			-		
	Magnetic type		Fixed			Adjustable			Adjustable		
Rms solid	LS		-			-			-		
	LSI		-			-			-		
	LSG		-			-			-		
	LSIG		-			-			-		
Dimensions (mm)			H	W	D	H	W	D	H	W	D
	1P		139.7	25.4	76						
	2P		139.7	50.8	76	177.8	105	87.4			
	3P		139.7	76.2	76	177.8	105	87.4	258	140	104
	4P		139.7	101.6	76	177.8	135.6	87.4	258	183	104
Weight(kg)			1P0.4,2P0.71,3P1.04,4P1.29			2P5.13,3P2.30,4P3.07			3P5.61,4P7.4		

SM5 Series moulded case circuit breaker

C series C type



C series H type

C series 3VF type

C series S type with lock

G series MEM type

G series H type

G series G type

C series E^2M type

L630S type

G Series MLS type

G Series HH246 type

G Series J250S type

SM5 Series moulded case circuit breaker

MES type

KW 4K type

FWF type

H226H type

MEE type

KW 400S type

GWF-125S type

LW 630S Type

LW 800 type

E^2LM Type

E^2KM Type

E^2LM Type

Keyword:1P,2P,3P,4Pole, Cover:black, white, Transparent color, Similar NF model,Provide CS, SS, CP, SA,CW type

SM2 Series moulded case circuit breaker

Application

SM2 series circuit breaker has features of reliable working out and steady performance ,reasonable structure,beautiful appearance and small volume etc. It can be used in the circuit of 50Hz or 60Hz, rated voltage up to 600V. It is used to distribute electric energy in distribution net word and over-load or short circuit protection power equipment,and also can be used in transformation of circuit infrequency under the normal conditions.

CS Series specifications

Type	SM230	SM250	SM260	SM2100	SM2250	SM2400	SM2630	SM2800	SM21250
Rated insulationvolatge(V)	600V								
Rated curretn of trip(A)	3,5,10 15,20,30	10,15,20 30,40,50	10,15,20 30,40,50 60	60,75 100	125,150 175,200 225,250	250,300 350,400	500,600 630	600,700 800	630,700 800,1000 1250
Mode of connection	Mode after board					Insertion mode			
ON & OFF caypcity	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA	AC380/ 1.5kA 415V/ 1.5kA

SS Series specifications

Type		SM2-30SS	SM2-50SS	SM2-60SS	SM2-100SS	SM2-250SS	SM2-400SS	SM2-630SS	SM2-800SS
Number of poles		2,3	3,3	3,3	3,4	3,4	3,4	3,4	3,4
Rated current In(A)		3,5,10,15 20,30	10,20,30 40,50	10,20,30,40 50,60	60,75,100	125,150,175 200,225,250	250,300 350,400	500,600 630	600,700 800
Rated voltage Ue(V)		600	600	600	660	660	660	660	660
(P1/P2) Ica/Ics breaking capacity (kA)	230	5/5	5/10	5/10	50/42	50/42	85/60	85/60	85/60
	400	5/2.5	10/7.5	10/7.5	30/20	30/20	50/35	50/35	50/35
	440	2.5/1.5	7.5/5	7.5/5	25/15	25/15	50/30	50/30	50/30
	500	2.5/1.5	7.5/5	7.5/5	15/10	15/10	35/25	35/25	35/25
	600	-	2.5/1.5	2.5/1.5	10/5	10/5	25/18	25/18	25/18
	660	-	-	-	5/2.5	5/2.5	15/10	15/10	15/10

CP Series specifications

Type		SM-250CP	SM-260CP	SM2-100CP	SM2-250CP	SM2-400CP
Number of poles		3	3	3	3	3
Rated current In(A)		5,10,1520 30,40,50	60	60,75,100	125,150,175 200,225,250	250,300 350,400
Rated voltage Ue(V)		600	600	600	600	600
(P1/P2) Ica/Ics breaking capacity (kA)	230	5/2	5/2	25/13	30/15	50/25
	400	5/2	5/2	10/5	18/9	36/18
	440	2.5/1	2.5/1	10/5	15/8	10/13
	500	2.5/1	2.5/1	7/4	10/5	15/8

SA Specifications

Type	Pole	Rated current(A)	Rated voltage(V)	Interrupting capacity(kA)					
				AC Voltage					DC voltage
				220/240V	380/415V	460V	550V	600V	125/250V
SM2-SA32	2	3,5,10,15,20,30	660	5	2.5	2.5	1.5	1.5	2.5
SM2-SA33	3	3,5,10,15,20,30	660	5	5.5	2.5	1.5	1.5	2.5
SM2-SA52	2	5,10,15,20 30,40,50	660	25	10	10	7.5	5	5
SM2-SA53	3	5,10,15,20 30,40,50	660	25	10	10	7.5	5	5
SM2-SA62	2	60	660	10	7.5	7.5	2.5	2.5	5
SM2-SA63	3	60	660	10	7.5	7.5	2.5	2.5	5
SM2-SA102	2	15,20,30,40 50,60,75,100	660	50	25	25	15	10	10
SM2-SA103	3	15,20,30,40 50,60,75,100	660	50	25	25	15	10	10
SM2-SA202	2	125,150,175 200,225	660	50	30	25	18	15	20
SM2-SA203	3	125,150,175 200,225	660	50	30	25	18	15	20
SM2-SA402	2	250.300.350.400	660	85	45	42	35	30	40
SM2-SA403	3	250.300.350.400	660	85	45	42	35	30	40
SM2-SA603H	2	500,600	660	85	45	42	35	30	40
SM2-SA603L	3	500,600	660	125	60	60	42	35	40
SM2-SA803H	2	700,800	660	85	45	42	35	30	40
SM2-SA803L	3	700,800	660	125	60	60	42	35	

Keyword:3P(3P+N),4Pole, Thermal magnetic tripping device, Similar NF model,Provide CS, SS, CP, SA, CW type

SM2-CW Series moulded case circuit breaker

Application

SM2-CW moulded case circuit breaker is rated insulation voltage up to 800V, It applies to distribution network circuit of AC 50/60Hz, with rated working voltage up to 690V and rated working current up to 800A. It is used to protect circuit and power supply equipment from damage of overload, short circuit and under voltage protection for the motor, can be installed both vertically and horizontally,
This breaker has features of small volume, high breaking capacity, short arcing time, an ideal product to use. This product complys with standard of IEC 60947-2.

Specifications

Type	Frame rated current (A)	Rated current (A)	Rated operating voltage (A)	Rated Insulation voltage (A)	Rated ultimate short circuit breaking capacity(kA) 400/690V	Rated serviceshort circuit breaking capacity(kA) 400/690V	NO.of poles	Flashover distance
SM2-CW63L	63	6,10,16,20,25,32 40,50,63	400	500	25	12.5	3	≤ 50
SM2-CW63M	63				50	25	3,4	
SM2-CW100L	100	16,20,25,32,40,50 63,80,100	690	800	35/8	17.5/4	3	≤ 50
SM2-CW100M	100				50/10	25/5	2,3,4	
SM2-CW100H	100				85/20	42.5/10	3	
SM2-CW225L	225	100,125,160,180 200,225	690	800	35/8	17.5/4	3	≤ 50
SM2-CW225M	225				50/10	25/5	2,3,4	
SM2-CW225H	225				85/20	42.5/10	3	
SM2-CW400L	400	225,250,315,350 400	690	800	50/10	25/5	3,4	≤ 100
SM2-CW400M	400				65/10	32.5/5	3	
SM2-CW400H	400				100/20	50/10	3	
SM2-CW630L	630	400,500,630	690	800	50/10	25/5	3,4	≤ 100
SM2-CW630M	630				65/10	32.5	3	
SM2-CW630H	630				100/20	50/10	3	
SM2-CW800M	800	630,700,800	690	800	75	37.5	3	≤ 100
SM2-CW800H	800				100	50	3	

Keyword:1P,2P,3P(3P+N),4Pole, Provide ABE、ABS、ABN、GBL、GBN、GBH、EMC type, Similar LS

SM7 Series moulded case circuit breaker

Application

SM7 series moulded case circuit breaker is suitable for industrial or commercial power and Lighting with AC50/60Hz, rated working voltage up to AC600V/DC250V, rated current up to 1200A, It's a kind of economical breaker with the characteristics of stable and reliable function,berutiful appearance,small size and long life,It can be used for conversion of line and infrequent starting motor. It can also be attached to install the accessories which have protection function for avoiding loss-voltage,under voltage. The product can install connection line with front board and back board,it can also be equipped with hang-operating apparatus or motor-operating apparatus to control in a-remote distance.

Specifications

Type	Rated current (A)	No.of Poles	Rated Voltage (V)		Rated ultimate breaking capacity Icu according to IEC 60947-2 AC voltage					DC Voltage	
			AC	DC	550V	440V	415V	380V	240V	250V	125V
SM7E-30	10,15 20,30	2P,3P	600	250	2.5	2.5	5	5	10	2.5 5	-
SM7S-30	3,5,10 15,20,30	2P,3P	600	250	2.5	7.5	10	14	25	5 10	-
SM7E-50	3,5,10,15 20,30,40,50	2P,3P	600	250	2.5	5	5	7.5	10	2.5 5	-
SM7S-50	10,15,20 30,40,50	2P,3P	600	250	5 7.5	7.5 10	10	14 18	25 35	5 10	-
SM7E-60	60	2P,3P	600	250	2.5	2.5	5	5	10	5 10	-
SM7S-60	60	2P,3P	600	250	5	18	25	25	35	10 15	-
SM7E-100	15,20,30, 40,50 60, 75,100	2P,3P	600	250	5	7.5	10	14	25	5 10	-
SM7S-100	10,15,20, 30 40,50, 60,75,100	3P	600	250	10	14	14	25	50	20	14
SM7E-225	125,150, 175 200, 225	3P	600	250	7.5	10	10	18	35	10	-
SM7S-225	125,150, 175 200, 225	3P	600	250	10	14	25	25	50	20	14
SM7E-400	250,300 350,400	3P	600	250	18	18	25	25	35	10	-
SM7S-400	250,300 350,400	3P	600	250	22	25	35	35	50	20	14

Keyword:1P,3Pole, Similar Loadline KA、AA

SM3 Series moulded case circuit breaker

Application

SM3 MCCB is applicable to the circuit of AC 50/60Hz,rated insulation voltage 690V, rated Current 25-800A, for distribute energy of electricity & infrequent operating &breaking circuit under normal conductions,The product conforms to GB14048.2, IEC60947-2 standard.

Specifications

Type	Pole NO.	Rated operatingvoltage(V)	Rated current(A)	380/415V Icu(kA)	380/415V Icu(kA)
SM3-125	1,3	660	25,32,40,50,60,80,100,125	25	75% Icu
SM3-160	3	660	125,160	25	
SM3-250	3	660	160,200,250	25	
SM3-400	3	660	315,400	50	
SM3-630	3	660	500,630	50	
SM3-800	3	660	800	50	

Keyword:3P(3P+N),4Pole, Max current: 800A,Thermal magnetic tripping device, Similar Legrand DPX

SM4 Series moulded case circuit breaker

Application

SM4 MCCB is applicable to the circuit of AC 50/60Hz,rated insulation voltage 690V, rated Current 25-800A, for distribute energy of electricity & infrequent operating &breaking circuit under normal conductions,The product conforms to GB14048.2, IEC60947-2 standard.

Specifications

Type	Pole NO.	Rated operating voltage(V)	Rated current(A)	380/415t Icu(kA)
SM4-125	3,4	550V	16,20,25,32,40,50,60,80,100,125	16,8
SM4-250	3,4	690V	25,32,40,50,60,80,100,125,160,200,250	25,12.5
SM4-630	3,4	690V	300,350,400,500,630	50,25

Keyword:3Pole, Protection for motor, reted from 0.1 to 63A, SM108-20/32 35mm standard din-rain installation, with buttom, handel operation

SM108、SM208 Series motor protection circuit breaker

Application

SM108 circuit breaker is suitable for the circuit with rated AC voltage up to 660V, frequency 50Hz or 60Hz rated from 0.1 to 63A, It is used for overload and short-circuit protection in the motor With small capacity and also be used for direct start of motor and circuit of unfrequented operation under normal conitions. It Conforms With IEC157-1, GB1497-85.

SM108

SM208

SM108 Specifications

Type		SM108-20	SM108-32	SM108-63
Pole NO.(P)		3	3	3
Rated voltage (V)		20	32	63
The setting range of trip current(A)		0.1-0.16,0.16-0.25 0.25-0.4,0.4-0.63 0.63-1,1-1.6,1.6-2.5,2-3.2 2.5-3.2,2.5-4,3.2-5,4-6.3 5-8,6.3-10,8-12.5,10-16,14-20	1-1.6,1.6-2.5 2.5-4,4-6.3 6.3-10.8-12.5 10-16.12.5-20 16-25.25-32	6.3-10,10-16 16-25,2.2-32 28-40,36-50 45-63,45-56
Switch capacity (effective value) motor(kW)	220V	1.5/0.95	10/0.5	20/0.3
	380V	1.5/0.95	10/0.5	20/0.3
	660V	1.0/0.95	3/0.9	5/0.7
Power of controlled motor(kW)	220V	14	16	32
	380V	13	26	58
	660V	1	1	0.6
Power feature 1.5le/1.2le/1.2le		Not act with in 2hrs/act with in 2hrs/action snap		
Weight(kg)		0.285	0.52	1.2

SM208 Specifications

	SM208-25		SM208-63		
Setting range(A)	Power of controlled motor(kW)	Rated curent(A)	Setting range(A)	Power of controlled motor(kW)	Rated curent(A)
0.1-0.16		0.16	1-1.6	0.37/0.55	1.6
0.16-0.24	0.06	0.24	1.6-2.4	0.75	2.4
0.24-0.4	0.09/0.12	0.4	4-6	1.1/1.5	4
0.4-0.6	0.12/0.18	0.6	6-10	2.2	6
0.6-1	0.25	1	10-16	3/4	10
1-1.6	0.37/0.55	1.6	16-25	5.5/7.5	16
1.6-2.4	0.75	2.4	25-32	11	25
2-3.2	1.1	3.2	28-40	15	32
2.4-4	1.1/1.5	4	36-52	18.5	40
3.2-5	1.5/2.2	5	45-63	22	52
4-6	2.2	6	-	-	63
5-8	3	8	-	-	-
6-10	3/4	10	-	-	-
8-13	4/4.5	13	-	-	-
10-16	7.5	16	-	-	-
14-20	7.5	20	-	-	-
18-25	11	25	-	-	-

Keyword:Various operating mode, small size, stable function with short circuit thermal overload, phase-failure protection

SM518 Series motor protection circuit breaker

Application

SM518 series motor protection circuit is mainly used for the overload and short circuit protection of The motor in AC 50/60Hz, up to 660V 0.1-8A power circuit , as a full-voltage starter to start and cut off the motor under the AC3 load or for overload and short circuit protection of the circuit.

SM518 is the electric motor belt thermomagnetism protection circuit breaker which the change-over switch con-trols; SM518 is the electric motor belt magnetism protection circuit breaker which thechange-over switch controls (does not bring hot protection).

Specifications

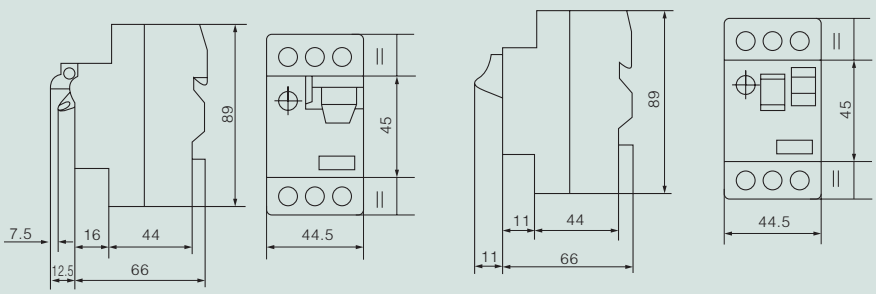
Type	55Standard power ratings of 3-phase motor 50/60Hz in category AC-3						Setting range
	220V kW	380V kW	415V kW	440V kW	500V kW	660V kW	
SM518-M01	-	-	-	-	-	-	0.1-0.16
SM518-M02	-	-	-	-	-	-	0.16-0.25
SM518-M03	-	-	-	-	-	-	0.25-0.4
SM518-M04	-	-	-	-	-	0.37	0.4-0.63
SM518-M05	-	-	-	0.37	0.37	0.55	0.63-1
SM518-M06	-	0.37	-	0.55	0.55	1.1	1-1.6
SM518-M07	0.37	0.75	1.1	1.1	1.1	1.5	1.6-2.5
SM518-M08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
SM518-M10	1.1	2.2	2.2	3	3.7	4	4-6
SM518-M14	4	4	4	4	5.5	7.5	6-10
SM518-M20	2.2	7.5	7.5	7.5	10	11	10-16
SM518-M21	5.5	10	9	9	11	15	16-20
SM518-M22	5.5	11	11	11	15	18.5	20-25
SM518-M01/RS01	-	-	-	-	-	-	0.1-0.16
SM518-M02/RS02	-	-	-	-	-	-	0.16-0.25
SM518-M03/RS03	-	-	-	-	-	-	0.25-0.4
SM518-M04/RS04	-	-	-	-	-	0.37	0.4-0.63
SM518-M05/RS05	-	-	-	0.37	0.37	0.5S	0.63-1
SM518-M06/RS06	-	0.37	-	0.55	0.75	1.1	1-1.6
SM518-M07/RS07	0.37	0.75	0.75	1.1	1.1	1.5	1.6-2.5
SM518-M08/RS08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
SM518-M10/RS10	1.1	2.2	2.2	3	3.7	4	4-6.3

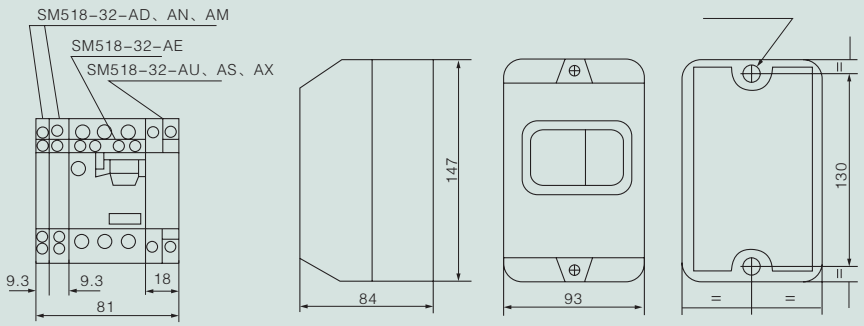
SM518 Series motor protection circuit breaker

Specifications

Type	55Standard power ratings of 3-phase motor 50/60Hz in category AC-3						Setting range
	220V kW	380V kW	415V kW	440V kW	500V kW	660V kW	
SM518-M14/RS14	2.2	4	4	4	5.5	7.5	6-10
SM518-M16/RS16	3	5.5	5.5	7.5	7.5	-	9-14
SM518-M20/RS20	4	7.5	9	9	9	11	13-18
SM518-M21/RS21	5.5	11	11	11	11	15	17-23
SM518-M22/RS22	5.5	11	11	11	15	18.5	20-25
SM518-M32/RS32	7.5	15	15	15	18.5	26	24-32
SM518-M06	-	0.37	-	0.5S	0.75	1.1	1-1.6
SM518-M07	0.37	0.375	1.1	1.1	1.1	1.5	1.6-2.5
SM518-M08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
SM518-M10	1.1	2.2	2.2	3	3.7	4	4-6
SM518-M14	2.2	4	4	4	5.5	7.5	6-10
SM518-M20	4	7.5	7.5	7.5	10	11	10-16
SM518-M25	5.5	11	11	11	15	18.5	16-25
SM518-M40	11	18.5	22	22	25	33	25-40
SM518-M63	15	30	33	33	40	55	40-63
SM518-M80	22	40	45	45	55	63	56-80

Dimension





ELECTRIC Suntree XinChi Electric

Intelligentialize, Digital display
Adjust, Supervisory contol
Fauct memory, Communication interface
With instantaneous, short delay, long delay,Single-phase grounding, protective characteristics

Keyword:3P,4Pole, 630A-6300A, 80kA-120kA, Fixed type and drawable type, Electric and manual operation, Intelligent controller, shunt release, Suitable for photovoltaic systems

SW1 Series intelligent conventional breaker

Application

SW1 series intelligent breaker is applicable in the distribution network of AC 50Hz, rated voltage of 400V and 690V, and rated current from 630A~3200A, to distribute electric energy protection circuit and prevent power equipments from harm of overload, under-voltage, short circuit and single-phase earthing etc. Provided with intelligent protecting function and precise selective protection, breaker can enhance the dependability of power supply and avoid the unexpected power cut. This product accords with the standard of IEC60947-2.

Model designation

S W 1 - □ / □

- Pole number (quadrupole is marked with 4, no mark is for three-pole)
- Breaker frame size rated current
- Design code
- Conventional breaker
- Xinchi Electrical Co.,Ltd.

Working and installation condition

- Installation mode: fixed type, drawable type.
- Operation mode: motor operated, manually operated(for serving).
- Pole number: three pole, four pole.
- Release type: intelligent type over-current controller, under-voltage instantaneous(or time-delay) operation release: shunt release.
- The properties of intelligent type over-current controller:

  a. Long time delay over-current protection inverse time limit, short time delay over-current protection inverse time limit, short time delay over current protection fixed time limit, instantaneous.

  b. Single-phase earthing protection function.

  c. Presenting function: setting current Ir, action current, setting time, action time.

  d. Alarming function: overload alarming

  e. Self-checking function: over-heat protection, microcomputer self diagnosing

  f. Testing function

  g. Load monitoring function

  h. Thermal simulation function

  i. MCR function
- j. Fault memory function

  Ambient Temperature:

  a. Temperature: 40 ≥ T ≥ 5℃ average value for 24 hours ≤ 35℃

  Note: working condition of minimum temperature is -10 ℃ or -25℃ , users must declare while ordering;

  working condition of maximum temperature exceed 40℃ or minimum temperature under -25℃ , the users should consult with our factory.

  b. Altitude: 2000m.

  c. Air relative humidity: 50%, when the max temperature is 40 ℃ And can be more while the temperature is lower, monthly average temperature in the most humid month 25℃ , monthly average maximum relative humidity 90%.

  d. Pollution grade:3.

  e. Installation type: the type of circuit breaker, main circuit, under-voltage tripping coil and supply transformer is IV, the type of other ancillary circuit, controlling circuit is .

  f. Installation condition: installation of circuit breaker shall accord to the instruction, and the vertical gradient of installation place should not exceed 5° .

SW1 Series motor protection circuit breaker

Application

SW1 series motor protection circuit is mainly used for the overload and short circuit protection of The motor in AC 50/60Hz, up to 660V 0.1-8A power circuit , as a full-voltage starter to start and cut off the motor under the AC3 load or for overload and short circuit protection of the circuit.

Specifications

Type	55Standard power ratings of 3-phase motor 50/60Hz in category AC-3						Setting range
	220V kW	380V kW	415V kW	440V kW	500V kW	660V kW	
SW1-M01	-	-	-	-	-	-	0.1-0.16
SW1-M02	-	-	-	-	-	-	0.16-0.25
SW1-M03	-	-	-	-	-	-	0.25-0.4
SW1-M04	-	-	-	-	-	0.37	0.4-0.63
SW1-M05	-	-	-	0.37	0.37	0.55	0.63-1
SW1-M06	-	0.37	-	0.55	0.55	1.1	1-1.6
SW1-M07	0.37	0.75	1.1	1.1	1.1	1.5	1.6-2.5
SW1-M08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
SW1-M10	1.1	2.2	2.2	3	3.7	4	4-6
SW1-M14	4	4	4	4	5.5	7.5	6-10
SW1-M20	2.2	7.5	7.5	7.5	10	11	10-16
SW1-M21	5.5	10	9	9	11	15	16-20
SW1-M22	5.5	11	11	11	15	18.5	20-25
SW1-M01/RS01	-	-	-	-	-	-	0.1-0.16
SW1-M02/RS02	-	-	-	-	-	-	0.16-0.25
SW1-M03/RS03	-	-	-	-	-	-	0.25-0.4
SW1-M04/RS04	-	-	-	-	-	0.37	0.4-0.63
SW1-M05/RS05	-	-	-	0.37	0.37	0.5S	0.63-1
SW1-M06/RS06	-	0.37	-	0.55	0.75	1.1	1-1.6
SW1-M07/RS07	0.37	0.75	0.75	1.1	1.1	1.5	1.6-2.5
SW1-M08/RS08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
SW1-M10/RS10	1.1	2.2	2.2	3	3.7	4	4-6.3
SW1-M14/RS14	2.2	4	4	4	5.5	7.5	6-10
SW1-M16/RS16	3	5.5	5.5	7.5	7.5	-	9-14
SW1-M20/RS20	4	7.5	9	9	9	11	13-18
SW1-M21/RS21	5.5	11	11	11	11	15	17-23
SW1-M22/RS22	5.5	11	11	11	15	18.5	20-25
SW1-M32/RS32	7.5	15	15	15	18.5	26	24-32
SW1-M06	-	0.37	-	0.5S	0.75	1.1	1-1.6
SW1-M07	0.37	0.375	1.1	1.1	1.1	1.5	1.6-2.5
SW1-M08	0.75	1.5	1.5	1.5	2.2	3	2.5-4
SW1-M10	1.1	2.2	2.2	3	3.7	4	4-6
SW1-M14	2.2	4	4	4	5.5	7.5	6-10
SW1-M20	4	7.5	7.5	7.5	10	11	10-16
SW1-M25	5.5	11	11	11	15	18.5	16-25
SW1-M40	11	18.5	22	22	25	33	25-40
SW1-M63	15	30	33	33	40	55	40-63
SW1-M80	22	40	45	45	55	63	56-80

SW1 Serites intelligent conventional breaker

Functions of three types of controllers, see chart 1

Usage	Series	Remarks	Functions		
General industrial usage	H	All belongs to digital units, Type L adopts coding switch and stirring push button setting mode Type M and H adopts digital display and push button setting mode	H series		● Telecommu-nication interface: providing multi-protocol digital transmission
	M		M series		
	L		L series		
			● Virtual value protection ● 3 steps protection + earthing creepage protection ● Load current light indication ● Multi-alarming function ● Testing function ● Malfunction Memory ● Auto-diagnosis MCR making breaking and limit-exceeding power-off function	● Current meter ● Voltage meter ● More protection function,5 types of properties available ● Load monitoring and control ● Contacts abrasion and indication for mechanical life-time programming interface	

Noumenon

Technical parameter and property

Basic parameters of circuit breaker

Frame size rated current Inm A	Rated current In A	Rated voltage Ue V	Rated limiting short-circuit breaking capacityIcu kA o-co		Rated operating short circuit breaking capacity Ics kA o-co-co		Rated short-time withstand current Icw kA(IS) 0.4s o-co	Power Loss (In) W	
2000	630	AC 50Hz 400 690	400V	690V	400V	690V	50	40	80
	800							60	130
	1000							90	205
	1250							90	205
	1600		80	50	50	40		140	310
	2000							170	310
3200	2000		100	65	80	50	65	170	400
	2500							260	510
	2900							320	650
	3200							420	760
4000	3200		100	75	80	65		430	780
	3600							440	790
	4000							450	800
6300	4000		120	85	100	75	85	1225	
	5000							1250	
	6300							1625	

Note: arcing-over distance is zero.

SW1 Serites intelligent conventional breaker

The reducing capacity coefficient of circuit breaker under different environment temperature,refer to the following table.

Environment temperature	+40℃	+45℃	+50℃	+55℃	+60℃
Allowed lasting working current	1In	0.95In	0.9In	0.85In	0.8In

Note: Under different environment temperatures,taking measured temperature of in-out line end of circuit breaker up to 110 as benchmark.

Intelligent Controller

Drawer Block

Protection characteristics of intelligent over-current release
Current setting of release and permissible error

Long time delay		Short time delay		Instantaneous		Earthing fault	
Ir1	Permissible error	Ir2	Permissible error	Ir3	Permissible error	Ir4	Permissible error
(0.4~1)In (Minimum 160A)	± 10%	(0.4~15)In	± 10%	10In~50kA	± 15%	(0.2~0.8) In maximum 1200A minimum160A	± 10%

Note: When there is three section protection at the same time, setting value can’ t cross.

Inverse time-limit acting characteristics of long time-delay over-current protection
Current setting of release and permissible error

I	Action time						permis-sible error
1.05Ir1	>2h non-action						
1.3Ir1	<1h action						
1.5Ir1	15s	30s	60s	120s	240s	480s	± 15%
2.0Ir1	8.4s	16.9s	33.7s	67.5s	135s	270s	

Note: The time of 2.0Ir 1 is calculated as I 2TL=(1.5Ir 1)2TL, TL is the action time of 1.5Ir1, set by user.

Earthing trouble protection characteristic is short time delay fixed time limit，see fixed time limit action time and return time in form 6，the time setting value of earthing trouble is “OFF” hen it is out of the factory.

Long time delay	Fixed value	Ir1	In
	Time delay	t1(1.5)	15s
Short time delay	Fixed value	Ir2	8In
	Time delay	T2	0.4s
Instantaneous	Fixed value	Ir3	12In
Earthing trouble	Fixed value	Ir4	0.4In
	Time delay	T4	Only show, open constantly
Load monitoring	Fixed value		In
	Time delay		In

Note：In the form，Ir1 is long time delay protection setting current，Ir2 is short time delay protection setting current，Ir3 is instantaneous protection setting current，Ir4 is earthing protection setting value，I Lc I，ILc2 is load inspect setting current.

SW1 Serites intelligent conventional breaker

Function of intelligent over-current releaser

Function of M type over-release

a. Ampere function Show each phase operating current and earthing leak out current, regularly show maximum current,show the current value or time value of setting, testing and trouble.

b. Voltmeter function Show each line voltage,show the maximum voltage normally.

c. Load monitoring function Set two setting value，setting range of is ILcl(0.2～1)In，setting range of is Ic2(0.2～1)In，ILcl time delay characteristic is inverse time limit，its time setting value is 1/2 of long time delay setting value；IL time delay characteristics are two：first is inverse time limit，its time setting value is 1/4 of long time delay setting value，second is fixed time limit，its delay time is 60s. The two time delay function，the former is used in breaking subordinate unimportant load while the current is closing to overload setting value，the latter is used when current exceeds ILcl setting value,make the time delay breaking subordinate unimportant load,fall of current, make the main circuit and the important load circuit keeping current supply,when the current falls down to ILc2, after some time delay,send out the order to put through the circuit which the subordinate has switched off and resume the current supply for the whole system. The above two monitoring protection,the users can choose one see monitoring characteristic in Picture 1(C)(a).

d. Setting function

Use Set ＋ - Reserve four buttons to set all parameter of the release.

e. Tesing function

Use Set ＋ - Reserve Non-release Reset to check all protection Characteristics of release.

f. Far-end monitoring and diagnosing function

(1)Local computer trouble diagnosing function Show error" E" or alarm when the computer gets out of order,and restart the computer. If it is needed,which can break the circuit breaker.

(2)Send out alarming when partial environment temperature is up to 85 ℃ and can break the circuit breaker when current is less up to(user’s need).

(3)Intelligent release has signal to pass contact or optical coupler output of overload,earthing,short cut,load monitoring,pre,release indicating(OCR), it is convenient for the user to external connecting and

remote controlling. Contact capacity DC28V,1 A,AC 1 25V,1 A.

g. MCR release and simulation protection,which can shut Off as users’ request,and it is usual shut off while making the test of time delay breaking.

(1)MCR making and breaking protection is mainly used while the line fault is switching on(the instantaneousness of release gets electricity), release has the function of breaking the circuit breaker in low-power Short current. setting current as 10kA, error ±20％,it can be set as user’request.

(2)Release has the function that when signal is not through the host computer chip,it can release signal directly in the situation of super short current.

h. Thermal memory function release has the memory function of simulating bimetal characteristic after overload or short time delay releasing and before electricity outage of release,overload energy release will be out in 30min,short time delay energy release out in 1 5min. During this time,trouble of overload or short time delay will make the release time shorter,release power,energy zero clearance automatically.

H type over release not only has all the function of M type,but also has serial communication interface,through special equipment to form a complete set with printer,language system or PC,can transmit parameter such as serial number of release, open-close state, setting value of release,operating current,voltage,fault current, action time and fault conditions,show or type out by way of figure,characteristics,etc,realize telemeter measurement,distant adjusting,remote control, distant news function,suitable for the network system.

(1)Communication interface hardware support

- 16 one-chip computers of central processing unit,frequency of clock is clock 25 MHz
- Maximum communication baud rate is 1 MHz
- Port comply with EIA RS485 protocol support duplex，half duplex mode

(2)Data transfer mode support

Support serial synchronization and serial synchronization mode

Support 8-bit, 9-bit data transfer mode,support odd-even checking. Realize parallel mode communication if it’s necessary.

Communication interface protocol is divided into three layers: application layer,link layer,physics layer,and each layer protocol is for special-purpose. Function of communication interface: it mainly realizes four functions what low- voltage distribution system required,such as telemeter measurement, distant adjusting,remote control,distant news function.

SW1 Serites intelligent conventional breaker

Function of L type over-current release: L type release adopts encode switch setting mode,has four protection characteristics of overload long time delay,short-circuit short time delay,instantaneous,earth leakAge,and has fault conditions,load current light cross indicating function,but does not have digit display,and the function is not so complete as M and H type.

Operating property

Operating property is denoted by recycling times

Recycling times per hour	Recycling frequency of electrification operation		Recycling frequency of non electrification operation		Total
20	2000A	500	2000A	9500	10000
	3200A		3200A	4500	5000
	4000A		4000A	4000	4500
	6300A		6300A	2500	3000

Operating voltage of shunt release,under-voltage release, electromotive mechanism,releasing,switching-in electromagnet,intelligent electronic controller,see Chart 8 as follows:

Type	Rated voltage AC(50Hz)V		DC V
Shunt release	Us	220,380	110,220
Under-voltage release	Ue	220,380	-
Electromotive mechanism	Us	220,380	110,220
Switching-in electromagnet	Us	220,380	110,220
Intelligent type electron release	Us	220,380	110,220

Note: The reliable operation voltage range of shunt excitation release is (70 % -110 %)Us,while that of closed electromagnet and electric operating mechanism is(85% -110%)Us.

Tripping properties of under-voltage releaser

Type		Under-voltage instantaneous	Under-voltage instantaneous
Action time releaser		Time delay 1,3,5s	Instantaneous
Action voltage value of release	35%-70%Ue	Can make the circuit breaker break	
	≤ 35%Ue	The circuit breaker can't be closed	
	≥ 85%Ue	The circuit breaker can be closed reliably	
Intelligent type electron release		The circuit breaker is not breaking	

Note: The accuracy of delay time is ±10%.

Property of auxiliary contacts

Conventional heating current auxiliary contact is 6A.

Auxiliary contact form: four normal open and four normal closed

Abnormal making and breaking ability auxiliary contact’ s making and breaking capacity of auxiliary contact under decided abnormal operating conditions.

Operating type	Making			Breaking			Making-breaking operating cycle frequency and operating frequency		
	I/Ie	U/e	COSΦ or t0.95	I/Ie	U/e	COSΦ or t0.95	Operating recycling frequency	Operating recycling frequency per minute	Making time
AC-15	10	1.1	0.3	10	1.1	0.3	10	6(Or the same as operating frequency of main loop)	0.05
DC-13	1.1	1.1	6Pe	1.1	1.1	6Pe			

Note: when the upper limit Pe=50W, T0.95=6Pe=300ms.

SW1 Serites intelligent conventional breaker

Making and breaking capacity of auxiliary contact under normal operation conditions

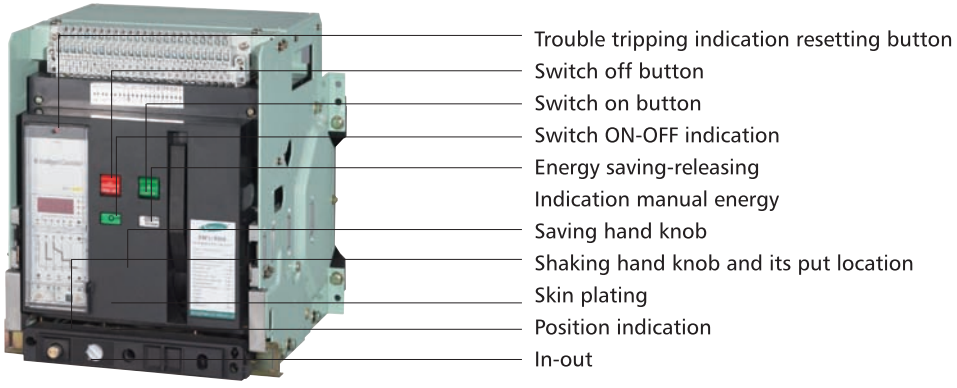
Operating type	Making			Breaking		
	I/Ie	U/e	COSΦ or T0.95	I/Ie	U/e	COSΦ or T0.95
AC-15	1	1	0.3	1	1	0.3
DC-13	1	1	6Pe	1	1	6Pe

Key lock on breaking position

Circuit breaker has" breaking position key lock" accessory(Supplied according to order).It can lock the circuit breaker in the breaking position. At this moment it can' make the circuit breaker clog no matter by switch knob or closing electromagnet.

Mechanism Summarization

Breaker structure is compact,which has the characteristic of stereo isolating type. contact system seals in the two insulating bases with isolating structure' each phase contact is parted to form a small chamber. Intelligent release, operating mechanism,manual and electric operating mechanism sequentially rank its front and form each independent unit. If one unit is broken,it can pull down this unit entirely and change a new one.



SW1 series intelligent conventional breaker

Accessories

Under voltage release

Shunt release

Keyword:3P,4Pole, small volume, FH:Fixed type, DH:drawable type, Electric and manual operation, Intelligent controller:L、M、H, under voltage instantaneous(delay) release, and shunt release

SW2 Series intelligent conventional breaker

Application

SW2 for short series intelligent air circuit breaker(hereinafter ca lled brea ker) is ap plie d in the net work circuit of AC 50H z, rated isolating voltage up to 690V, rated voltage below 690V and rated current between 400A and 4000A. It is mainly used for power distribution and between 400A and 4000A.It is mainly used for power distribution and protecting the circuit and power supply device from short-circuit,
under voltage, single phase ground fault, and etc. This ACB has functions of intelligent protection and four-step selective protection, which can prevent system from unnecessary power cut and enhance reliability of power supply. Impulse withstand voltage of the breaker is 12,000V. The product accords with IEC60947-2 and IEC60947-4.

Model designation

S W 2 - □ / □

- Pole number (quadrupole is marked with 4, no mark is for three-pole)
- Breaker frame size rated current
- Design code
- Conventional breaker
- Xinchi Electrical Co.,Ltd.

Working and installation condition

- Ambient temperature
  Upper limit value is no more than +40℃ , lower limit value is no less than -5℃ and average value in 24 hours is no more than +35℃ .
- Installation altitude is under 2000m
- Air condition
  Relative air humidity is no more than 50% if ambient temperature is to be +40℃ . Under the condition of lower temperature, relatively higher humidity is allowed, monthly average relative humidity is to be 90% in the most humid month, and meanwhile the lowest average temperature is to be +25℃ in this month.
- Protection class: IP30
- Application type: B type and A type
- Mounting types: type of installing ACB and its under voltage release and primary coil of power transformer is to be IV; type of auxiliary circuit and controlling circuit is to be .
- Mounting condition: mounting breaker as per this guide book and vertical gradient is no more than 5° .

Technical parameter and property

- Rated current of ACB see following Chart 1

Inm A	In A
2000	(400),630,800,100,1250,1600,2000
4000	2000,2500,2900,3200,4000

- Rated operating current, breaking capacity, resistant current for short time and incoming modes see following chartArc-over distance is zero(ie. ACB has no external arc-over)

SW2 Series intelligent conventional breaker

Inm A		4000	2000	Incoming modes
Breaking capacity for rated	400V	80	50	Upside incoming
Limited short circuit Icu(kA)O-CO	690V		30	
Making capacity of rated short circuit n x Icu(kA)cos Φ	400V	176/0.2	105/0.25	
	690V			
Breaking capacity of rated operating short circuit Ics(kA)OCO-CO	400V	60	40	Or downside incoming
	690V			
Resistant current of rated short time Icw(kA) is time delay 0.4s,OCO	400V	60	40	
	400V			

- Protective property and function of intelligent over-current release Protective property of over-current release Setting value and error of release Ir(I/In), see Chart 3

Inm A	Long time delay	Short time delayI		Instantaneous		Earthing malfunction	
2000	Ir1	Ir2	Error	Ir3	Error	Ir4	Error
4000	(0.4-1) In	(3-10)In	± 15%	(10-20)In	± 15%	(0.2-0.8)In (Max.1200A, and min.160A)	± 15%
		(3-6)In		(7-14)In			

Note: when release is to be L2, Ir3 is to be(3-10)In

- Inverse time limit action property for long time delay over current protection---I2T L =(1.5Ir1)2t L, its action of (1.05-3.0), see Chart 4,and its time error is to be +15%.
  Note: tL-setting time of long time delay 1.5 Ir1, TL-action time of long time delay

1.05Ir1	1.3Ir1	Setting time for 1.5Ir1	30	60	120	240
>2h nonacting	<1h acting	3.0 Ir1	Resetting time>8s,and its current is to be 0.9 Ir1			

Acting time for short time delay is 0.2s and 0.4s respectively,and the accuracy is to be +15%
Acting time of earthing protection is to be 0.2s, 0.4s, 0.6s and 0.8s respectively, and the accuracy is to be +10%.
Classifications of intelligent release Intelligent release is classified into L2, L3 and L4. Specific function see following Chart 5

Rated Voltage VA(W)	AC 50Hz		DC		Remarks
Name	220 (230)	380 (400)	110	220	
Under-voltage release	18	19	-	-	Max. instantaneous power
Shunt release	44	57	29	24	Max. instantaneous power
Releasing release	670	680	890	903	
Motor mechanism	200				Numerator without under-voltage Denominator with under-voltage
Intelligent release	≤ 15/25		≤ 10		

Note: within the range of 70%-35% under-voltage release breaks the breaker, when ≤ 35% Ue, the breaker does not switch out. Under 85%-110% Ue, the breaker is assured to be switched out; within the range of 1/2 and if main voltage is rec overed to 85 %, the breaker does not be off; reliable action of the release is in the range of 70%-110%;releasing(switch-off) electromagnet and reliable action voltage range for the motor operation mechanism is 85%-110%.

SW2 Series intelligent conventional breaker

Model	Basic function	
L2	1. Long time delay and instantaneous In(5-20) 2. Load current streamer indication 3. Operating indication under MCU 4. Indication under malfunction 5. Memory function of malfunction 6. Instantaneous testing function	1. Making and breaking for MCR and stimulant releasing function 2. Signal units for alarming(prealarming, auto-diagnosis and OCR releasing) 3. Under-voltage time-delay protective unction
L3	1. Long time delay , short time delay(2-10) In(I frame), (2-10)In (II frame), and instantaneous In(5-20) In(I frame),(7-10)In(II frame). 2. Load current streamer indication 3. Operating indication under MCU 4. Indication under malfunction 5. Memory function of malfunction 6. Instantaneous testing function	1. Making and breaking for MCR and stimulant releasing function 2. Signal units for alarming(prealarming,auto-diagnosis and OCR releasing) 3. Under-voltage time-delay protective function
L4	1. long time delay , short time delay(3-10) In(I frame), (3-6)In (II frame), and instantaneous In(0.2-0.8)In(I frame),(7-14)In(II) frame).malfunction protection for single phase earthing. 2. Load current streamer indication 3. Operating indication under MCU 4. Indication under malfunction 5. Memory function of malfunction 6. Instantaneous testing function	1. Making and breaking for MCR and stimulant releasing function 2. Signal units for alarming(prealarming,auto-diagnosis and OCR releasing) 3. Under-voltage time-delay protective function

Operating property of ACB(denoted by operating recycling times), see Chart 6

Inm A	Operating recycling times per hour	Operating recycling times under electrification	Operating recycling times no electrification	Total times
2000	20	500	4500	5000
4000	10	500	2500	3000

Working voltage and power of different release see Chart 7

Property of auxiliary contacts see Chart 8

Application types	Making			Breaking			Times for making and breaking operation recycling and frequency		
	I/Ie	U/Ue	COSΦ or T0.95	I/Ie	U/Ue	COSΦor T0.95	Operating frequency	Operation recycling time per min	Electrification time (s)
AC-15	10	1	0.3	1	1	0.3	10	6 or same as the frequency of the main loop	0.05s
DC-13	1	1	300ms	1	1	300ms			

Making and breaking capacity for auxiliary contacts under normal conditions see Chart 8

Application types	Making			Breaking			Times for making and breaking operation recycling and frequency		
	I/Ie	U/Ue	COSΦ or T0.95	I/Ie	U/Ue	COSΦ or T0.95	Operating frequency	Operation recycling time per min.	Electrification time (s)
AC-15	10	1	0.3	1	1	0.3	60,50	6	0.05s
DC-13	1	1	300ms	1	1	300ms			

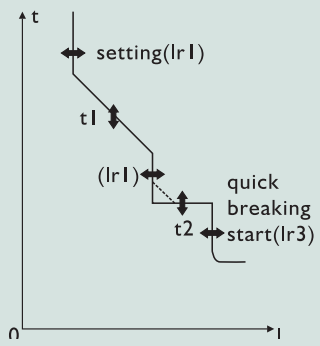
- Max. manually-operated force(Inm) of the breaker doesn’ t exceed 180N, Inm=4000 410N(for repair and inspection only) and operating force for the handle of drawable type push- in mechani sm is no more than 150N.

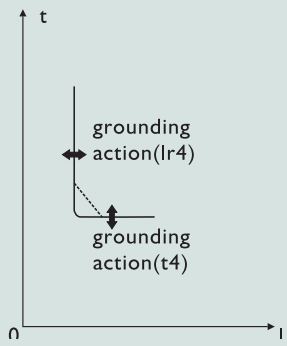
SW2 Series air circuit breaker

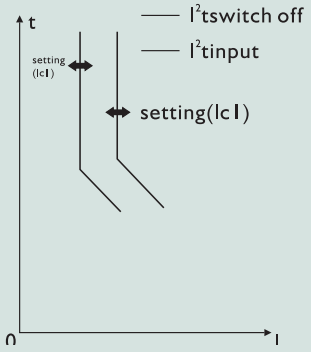
1. Terminal of secondary circuit
2. Drawer shelf
3. Manual energy-storage and energy-release
4. Data label
5. Switching-on buttom
6. Indicator of energy-storage and energy-release
7. "Unlocking button"of the three positions("separated"test"connected")
8. Safety padlock position
9. Cranking bar
10. Indicator of switching-on(I)and switching-off(O)
11. Switching-on button
12. Intelligent controller
13. Release indicator and resetting button

Function

Equiped	can be equiped additionally		
	L	M: multifunction type	H: communication type
Long-time delay protection	◆	◆	◆
Short circuit short-time delay protection	◆	◆	◆
Short circuit instantaneous protection	◆	◆	◆
Unbalance or open-phaseprotection		◆	◆
Load monitor		◆	◆
Ampere meter		◆	◆
Voltage meter		◇	◆
Pre-alarm	◇	◇	◆
Self-diagnostic	◇	◇	◆
MRC function	◇		◇
RS485 port	◇	◇	
Communication protocols module			◇

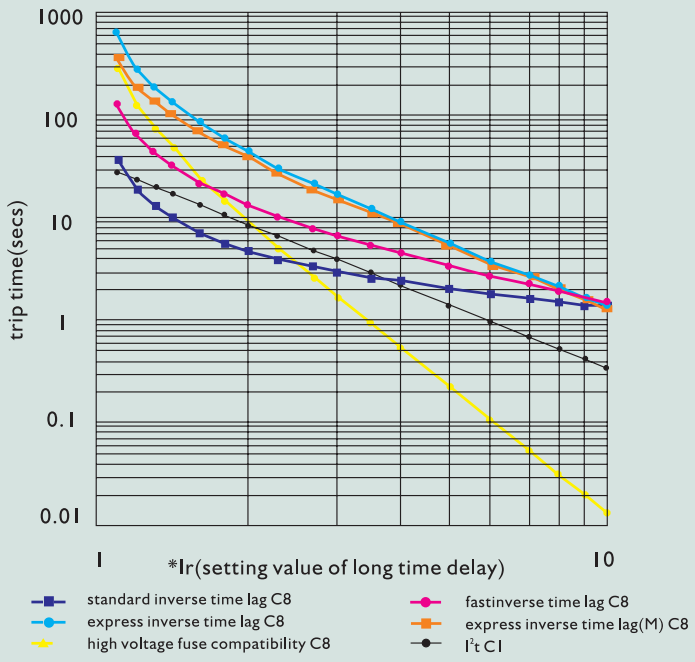




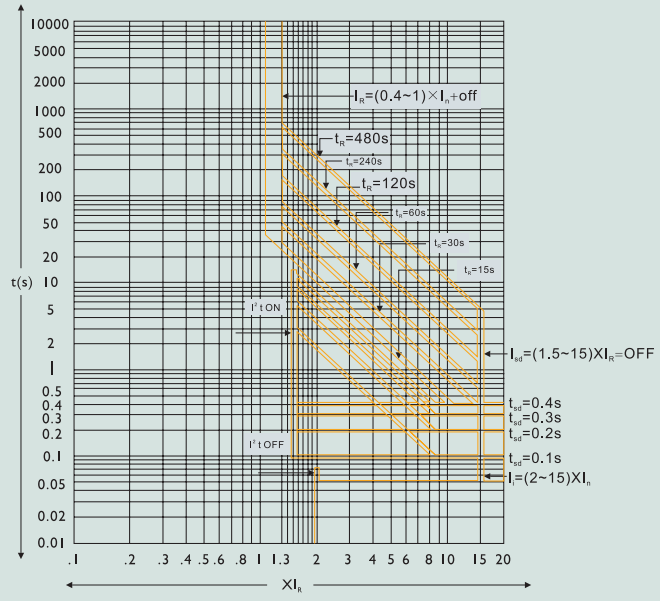


SW2 Series air circuit breaker

Kinds of characteristic overview(rate curve :C8)



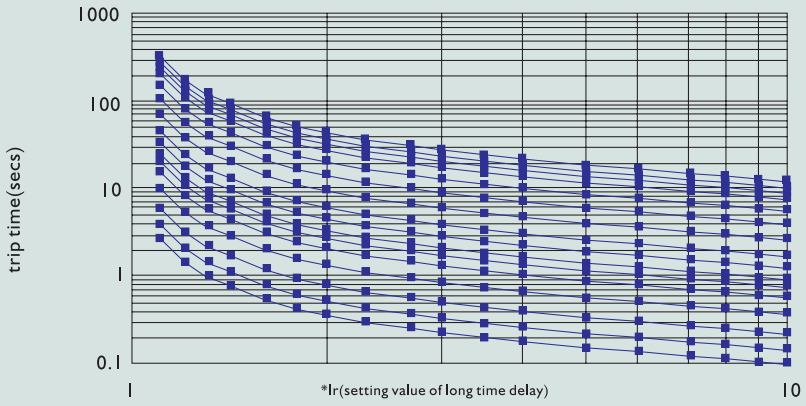
Time/current curve of overload protection



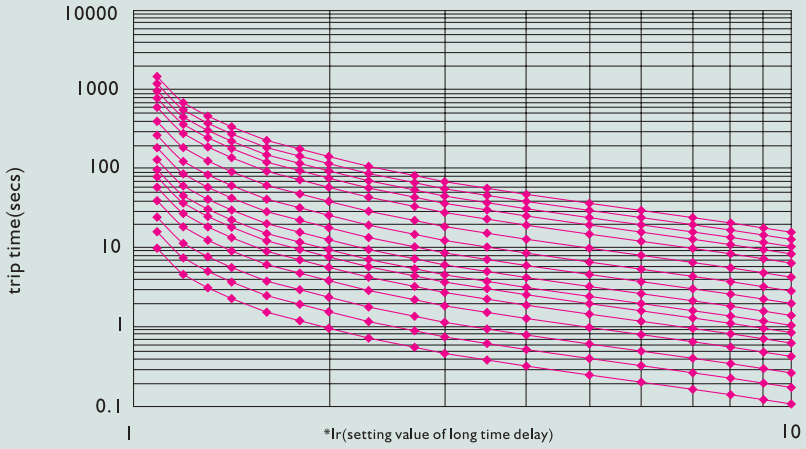
I_n		Rated working current
I_r		Setting current of overload with long time delay
I_{sd}		Setting current of short circuit with short time delay
I_i		Setting current of short circuit instantaneous trip
T_R		Setting time of overload with long time delay
T_{sd}		Setting time of short circuit with time delay
I^2t	ON	Inverse time lag characteristic
I^2t	OFF	Constant time lag characteristic

SW2 Series air circuit breaker

Standard inverse time



Fast inverse time



Express inverse time